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A CRITICAL ANALYSIS OF THE EXPERT TESTIMONY IN THE "JACK THE STABBER" CASE.

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In view of the fact that expert testimony in medical cases has become of late the subject of renewed inquiry, it has seemed worth while to submit the evidence from a recent trial to a critical analysis in order to determine, in as tangible a way as possible, the chief faults of the present method as exhibited in an actual case. This somewhat novel method of approach presents a number of difficulties, the most apparent of which is, that the evidence submitted for criticism must of necessity be abstracted from the official record, and the more or less fragmentary nature of these exhibits might well raise the question of fairness. An attempt will be made, however, to use only such parts of the testimony as are necessary to the question at issue and a sufficiently complete excerpt will be given, to avoid if possible the charge of unfairness.

That expert testimony as given in the courts today on questions of medical fact, is based upon a wrong attitude towards the end and aim of justice, is no longer denied nor is there much weighty opinion against the view that a radical change is necessary. A system must be devised and largely followed that results in establishing the medical expert in his proper place, which is that of an interpretative officer in the service of the court. He should have no interest as such nor concern in the two sides of the case, and should hold aloof from the legal aspect of the question as much as possible.

An expert is one who may reasonably be supposed to have that kind of knowledge of a subject not within the reach of the average of his colleagues and to have a more than average ability in presenting this knowledge in such a form as to come within the understanding of the average jury. His one reason for appearing in a court of law at all, is to place this knowledge at the service of the judge who presides at the trial in which the question is raised. This may be regarded as an ideal qualification and beyond the reach of the present system, and it probably is; but there is nothing to prevent a striving for the betterment of the system

with this, or a better ideal in view. In order to show the absurdity of the present system, the following analysis of the expert testimony in a recent case is given with the idea of contrasting in one and the same case, two methods of obtaining and presenting expert testimony. On one side it was possible to present a group of opinions obtained in the service of the court; on the other there was a body of opinion that was admittedly prejudiced from the start. In other words, one set of opinions was simply an attempt to strengthen a defense argument and the other was simply on the question itself uninfluenced by either the prosecution or the defense. That the latter was used as the State's position was simply a matter of coincidence and has nothing to do with the principle involved.

The transcript of evidence was obtained from the official court stenographer and was especially made for the purposes of this paper. Its accuracy therefore can not be questioned. The names of the experts will not be given, but they will be designated by letters. This is done with the obvious intention of avoiding the charge of personal criticism which lies far from the purpose of this paper. It will be necessary to give the story of the crime and the charge against the criminal and likewise to present the opinion of the Commission on Insanity and to describe its function in this case.

The Commission on Insanity of the City Jail whose function it was to report to the Circuit Attorney's office the results of its examination into the mental condition of the prisoner, has been in existence for only a short time. It is composed of three neurologists who volunteered their services to the criminal courts of St. Louis for the purpose of deciding questions of mental responsibility in such prisoners committed to the City Jail in whom such questions might arise. The jail physician by virtue of his office is a member of this Commission. The Commission acts either at the request of the Circuit Attorney's office, or of the judges sitting in the criminal division of the circuit courts. Its opinion is given in writing before the trial takes place and in some instances before the prisoner is arraigned. In no sense is its opinion to be taken as necessarily the State's position. The Commission agrees to hold itself in readiness, however, to express its opinion in court when required, as its formal opinion in writing has no place as evidence. The members therefore are asked to submit to the usual cross-examination as practiced in the courts. In this way it would sometimes appear as if the Commission were a part of the State's system of prosecution when such is not the case at all.

The crime as well as the criminal excited a good deal of attention on account of the notoriety which was given them by the newspapers. The readiness with which medical opinions concerning the mental condition of the prisoner could be obtained and printed was a surprising feature

of the case from the start. Considering the obvious difficulties which the case presented from the psychiatric point of view this readiness to express opinions was somewhat remarkable. In fact, one of the physicians who afterwards became very active as a defense expert was willing to diagnose the case and outline a scheme for his defense long before the trial took place and long before he had an opportunity for examining the prisoner. A word might here be said about this feature of criminal cases which become objects of public interest.

It is reasonable to assume that there must be some purpose behind this free expression in the public press of an expert's views on the mental condition of a prisoner before the trial takes place. The most common motive is that of a desire for the advertising which naturally follows a newspaper interview. The wish to influence public opinion might be conceived of as another and as little worthy a motive. The latter is not by any means infrequent. Any reader of a newspaper is potentially a juror and it might be worth while to create an opinion in the mind of this or that individual on the chance that he might be in a position to render judgment in the case. It will be readily admitted therefore that the first requisite of an expert is that he must preserve absolute silence concerning his opinion in respect to the question upon which he will be asked to testify. This silence of course relates only to the expression in newspapers. The relation between physician and patient is commonly respected by the law, and it is only in exceptional cases that this relation is disturbed. An expert in the examination of a case stands in the relation of patient and physician, and he should be held strictly to this position except in the court-room, where for obvious reasons this relation is exempted. An insistence of this would have prevented much of the unseemly publicity given to the medical aspect of this case.

The crime concerned the peculiar actions of a young man, twenty years old, who ran amuck in the down-town streets of St. Louis and wounded several women, inflicting flesh wounds in the hip and thigh. No serious results to the women through the stabbing came about. After a certain time the man was arrested and placed on trial for felonious wounding. The case was tried before Judge Matt. C. Reynolds in the Circuit Court, on April 19, 1906.

The Commission on Insanity after a careful examination and due consideration of the importance of the case, especially from the point of view of unprejudiced testimony, reported in writing to the Circuit Attorney's office as follows:

"The following is our opinion in regard to Lawrence Brady, a prisoner in the City Jail charged with felonious wounding: We find that John Lawrence Brady shows no evidence of insanity at the present time. He is to be considered as mentally responsible within the meaning of the

law, and he is sufficiently intelligent to undergo trial for the offence he has committed.

"Owing to the fact that his crime has no apparent motive we suggest the following in explanation:

"The crime may have been the result of one or of a combination of these four conditions: 1. Sexual perversion. 2. Imperative act. 3. Epilepsy. 4. Alcoholic temporary excitement.

"For the first there is not the necessary evidence. The second seems to us insufficiently proven by the facts obtained. There is absolutely no data upon which to base the third. The fourth either alone or as a complicating factor in the second opens the possibility of a reasonable explanation. We suggest therefore then that John Lawrence Brady be tried as an individual mentally responsible and that the possibility of alcohol being the exciting factor be left to be determined by the facts as elicited in the trial of the case."

The necessity of finding an abnormal state mentally was the task of the experts employed by the defense, for if they could not discover any mental trouble the theory of the defendant's lawyers fell to the ground. It can be seen that very early in the case the legal aspect overshadowed the medical point of view, although the medical question was by far the more important. A diagnosis was first to be made, then the prisoner fitted to it and the defense built up afterwards. As a result the prisoner, Brady, was no longer to be considered a subject for careful medical inquiry, but an object of legal defense, the first requirement of which was the discovery of some definite mental disease.

If this method of determining the status of the prisoner be contrasted with that used by the Commission on Insanity it will be readily seen how much more secure they were in their effort at arriving at a conclusion. They were under no necessity to discover anything one way or the other. They had no relation with either the prosecution or defense. They knew and took cognizance only of the fact that this individual had committed a crime and that this question was to be answered: Was his deed the result of an abnormal state of mind which could be determined by the usual means at the service of medical inquiry? If this were the case and the law recognized that he was not to be held responsible for the logical results of his crime, then he would be declared insane and sent to some institution to protect society from further danger resulting from his abnormal impulses. If he were found to be sane, then he would be tried for his crime as an ordinary criminal. In more than this the Commission was not concerned. As a matter of fact, they acted towards the prisoner much the same as any one of them would to a private patient in the sense that the important thing was to find out what was the nature of his disease.

One of the experts for the defense, designated as Dr. A., in his open-

ing replies to the questions of the attorney for the defense, indicated clearly the nature of the data that would be relied upon for the proof of insanity. They proposed to establish proofs of physical degeneracy in this man and to argue from it that some abnormal mental state was necessarily present. He found, for instance, that the prisoner was under weight; that he had a small facial angle; that the ear was without lobes, contained a darwinian tubercle, summing up his findings in what he termed morbid degeneration. The following questions by the defendant's attorney, and the expert's answer will illustrate the method of arriving at the diagnosis of insanity:

Q. Now, from your examination of the defendant and what you found, and what you have testified to, what do you say as to his mental condition?

A. Well, from that, all we can tell is that he is below the normal standard nervously, want of equilibrium of the nervous system.

The witness was further asked whether from this data he would be able to state the mental condition in regard to responsibility on the 22d of January, the day that the assault was committed. It was ruled by the court that the question of responsibility must be established by the jury and not by the expert, whose sole duty in this connection was the determination of sanity or insanity. The witness asked whether he would be allowed to take the crime into consideration in his answer. The court ruled that he could not. The witness then very rightly said he was unable to answer this question.

From the medical point of view this ruling needs some comment. It illustrates very well how far from the real question an expert's opinion is allowed to drift, in order that the rules of evidence, or whatever they are called, might not be interfered with. It illustrates likewise, how necessary it is for the lawyer and the physician to develop a common ground upon which such questions might be threshed out so that justice might result. It is obviously ridiculous to exclude from an expert's body of data, just the act upon which the decision must in a large measure rest, and just the act for which the defendant is brought into court and for which the plea of insanity is brought. This sort of thing has little to do with medical expert testimony as a means of arriving at the truth. It is a legal procedure for the purpose of building up a structure of legal defense the strength of which depends upon the physician's acceptance of the legal necessity.

The expert very rightly declined to answer the question unless he could connect it with some act that was presumably insane. The act in this instance was the original cause of the whole inquiry. That the act was admitted to be a fact apparently made little difference. As far as the testimony had gone there was obviously a tendency to divorce the question of insanity from that of irresponsibility. The former being a question to be largely determined by the experts and the latter being left

for the jury to decide. To one interested in seeing the whole truth evolved from the complexity into which it had been allowed to sink, this decision seemed to be a further obstacle needlessly thrown in the way of obtaining it. At the last analysis it is the jury which determines both points, and one being established the other necessarily follows. To the mind of the expert such a differentiation is impossible.

At this point the hypothetical question was put. This maneuver seems to be out of place in a modern court of law. It is a device apparently designed for the purpose of putting in a categorical form such facts as were brought out in the trial and assumed to be true, to which an answer might be given which would have no necessary bearing upon the individual who is being tried. If there is a single method that might be thought of to confuse the minds of the jury and puzzle the judgment of the experts the hypothetical question is easily the most formidable. As framed in this case it was a disconnected, illogical grouping of facts obtained in the examination of the various witnesses put together in order to enable the expert to answer yes to the question of insanity. The question in full is as follows:

"Now, I will ask you this, doctor: Assume that a young man about twenty-two years old, whose father for a period of over twenty years had manifested monthly an extreme passion toward the mother of the subject, beating her and frequently driving her from her home during the period she was pregnant with the subject; who, when the subject was six months old, hit said subject in the face with his fist; who, when said subject was nine or ten years old, hit said subject a violent blow on the ear, causing thereby blood to flow from said ear, which lasted for a period of about two weeks; who again, when said subject was about twelve or fourteen years of age, struck said subject a violent blow in the ear; that when said subject was about sixteen years old stripped him naked and beat him violently with a horse-whip, resulting in said subject being sick with bladder trouble for a period of about a month and rendered unconscious at the time, the father quarreling frequently with said son, resulting in said son having to leave home; that said father was ultimately fined for striking his wife; said father frequently quarreling with his daughters, throwing on one occasion a cup of coffee at one of them, or a cup of tea. Assume that the party when twenty-five years old was charged with assaulting with a knife a woman fifty-six years old, in the city of St. Louis, was placed on trial for assault to do great bodily harm; what do you say as to the sanity or insanity of that assumed hypothetical subject, together with your examination of this defendant; would you say whether he was sane or insane?"

To this the expert for the defense, Dr. A., made the unqualified answer that the defendant, or the hypothetical defendant, was insane.

If the experts who answered this question in the positive held a logical

and consistent position, then their diagnosis of this man's insanity was made upon the basis of the facts stated in this question because one of them, as has just been seen, refused to answer the question on the facts that were obtained in the physical and mental examination of the defendant. The new body of data then is contained in the hypothetical question. Now it is seen at a glance that the hypothetical question has absolutely no medical value whatever. It assumes that because a father has acted insanely, let us admit for the sake of argument, then the offspring of this father must of necessity be insane. Consequently, any act that a son of such a father does, which is not entirely explained by the motives present for such an act, is necessarily an insane act. As a result the individual is insane from the physician's point of view and irresponsible from the point of view of the jury.

The point of the influence of alcohol, for example, is not touched upon at all, and for the very evident reason that alcoholic excess is no excuse for a crime of that nature. This point is worth considering as showing that the question was not framed to include all the important points from the medical point of view, but rather to exclude such important data which might interfere with the theory of defense as worked out by the defendant's lawyer.

Assuming the good faith of the expert in question, his answer simply strengthens the assertion that as soon as an expert becomes partisan, at that moment his regard for exactness of medical statement and the careful collection of data so essential in his daily work, disappear and his one idea apparently is to satisfy and strengthen a legal argument. He becomes in this way not an agent of the court nor has he much to do with the question of justice, but he is a lawyer's instrument and he is used as such.

A curious phase of this matter is illustrated by the answer given by this same expert to the question of curability of this mental condition. The question was as follows: Then I understand you to say that in your opinion the defendant with proper treatment might be ultimately cured? A. Might be; yes, sir. It is questionable whether off the stand and in the quiet of his consulting room, the expert would have been willing to offer to cure a degeneracy so marked as was supposed to have been found in this case. To do this it would be necessary to give electricity and bromide to many generations of the prisoner's forefathers. This simply shows that an expert who in the beginning examines his case from the ex parte standpoint will have to live up to the diagnosis so formed, throughout his testimony. It is not to be understood that there is any necessarily evil intention in a testimony so advanced; it is simply the natural consequence of the one-sided attitude which a medical diagnosis leads one to, if that diagnosis is not founded upon the free establishment of data and the logical reasoning from them. The prosecuting attorney

now added his hypothetical question to the one already advanced, further complicating the whole business:

Q. Now, doctor, taking into consideration in your answer to this question what you found in the examination that you made, and taking into consideration all the facts stated by Mr. Porter, in the hypothetical question which he put to you, and in addition to that if the defendant in this case, who is twenty-two years of age, had worked for some two years at Granite City in a stamping mill, in a responsible position and following that by working at the cooper's trade in a responsible position, and then following that for three years as checker in 'Priester's restaurant here in the city of St. Louis, and then following that by immediately going over to Specht's restaurant and working there as checker, a responsible position, on and up to the afternoon of the 22d of January, the date of the commission of this offense, and then about six o'clock or a little after in the evening, he runs against Martha Young and jabs her in the fleshy part of the hip or thigh with a knife and immediately flees from that place and is caught about a block distant away and is accused of taking her pocketbook, which he denies, and denies that he had a knife, and, furthermore, is found at that time to have been drinking intoxicants, what would you say was the condition of that man as to his sanity at that time? And then in addition to that question, say that persons who have been associated with the defendant during all of his life, some of them going to school with him, commencing with his birth, practically, on and up to the time of the commission of this offense, never noticed anything unnatural, saw him pass and repass as other boys and was always peaceable and quiet. Now, in addition to what I stated awhile ago, what would you say was his condition on the evening of the 22d of January?

A. I think he was insane.

The unqualified, positive answer to this second hypothetical question can only mean that the same kind of mental tyranny which the legal aspect of the case had exercised from the beginning was active and caused automatically, so to speak, a given answer to a series of questions. The new facts as advanced in the second hypothetical question did not alter the expert's point of view in the least, though it was apparent to any one that so unqualified an answer was not justified by the facts in the case, not justified, that is, from the medical standpoint.

The next expert for the defense, Dr. B., answered the two hypothetical questions even more positively. He declared the defendant to be insane, curable or not, he would not say, and made a diagnosis of imperative insanity. Leaving aside for the moment the question of the justification of the diagnosis and whether such a thing as imperative insanity has any place in the classification of insanity, the injustice of this designation must be plain. The law in this State does not recognize the validity of an imperative act as an excuse for crime, but of course does acknowledge

that insanity is a justifiable plea. In this diagnosis the juror is expected to determine just how little of imperative act and just how much of insanity is contained in this phrase. An imperative act is found in a variety of neuroses and does not by any means determine the insanity of the individual who is a victim of it. Furthermore, an imperative act is largely a conscious act in which the individual is perfectly aware of the imperative nature of the impulse and frequently struggles against it. There is generally a feeling of discomfort, mental and physical, which the patient is aware of and which produces in him the feeling of something foreign and strange. No trace of this sort of thing was brought out in the examination of the patient, and it was certainly not mentioned in the testimony of the two physicians for the defense. The only explanation that can be suggested in this use of the phrase, imperative insanity, is that it was used as a device to strengthen the theory of defense and to create the impression on the part of the jury that the man was insane and the deed committed while he was in that condition. In the meaning of the term as put forth by the expert, Dr. B., every act committed in a state of insanity would therefore be an imperative act and all forms of insanity, by the same kind of reasoning, are imperative insanities. This same expert on the cross-examination further attempted to explain the term he had used in his first examination by declaring the act to have been an impulsive act, an uncontrollable impulse. He further elaborated as follows: "We would have to say an uncontrollable insane impulse. But we understand an uncontrollable impulse in nervous diseases to mean insanity, and in order to be understood, I would have to say an uncontrollable insane impulse." A further analysis of this remarkable phrase is unnecessary other than that to point out its evident prolixity. Pressed further in the cross-examination as to the relation of this form of insanity to epilepsy, the expert was not willing to say that the patient was suffering from an epileptic insanity, but left the jury in the position of being unable to determine the relation of epilepsy to the disease in question. If the judge had so instructed them in regard to the well-known immunity which a criminal, the subject of epilepsy, would enjoy, they would be in no position to decide from the testimony where the truth would lie. If the expert has any office to fill, it is certainly that of making clear to the jury the facts of the medical side of the case. The end and aim of this sort of testimony seems to be to confuse the jury and to bolster up a theory of defense presented by an attorney who by the very fact that he is an attorney for one side or the other must be partisan. It is certainly an anomalous position that needs no further comment which places the physician in so unscientific and unmedical attitude.

The experts for the state who by virtue of their semi-official connection as members of the Commission on Insanity were placed in a position where their sole task was to present in as simple a manner as pos-

sible their findings in the case. That they appeared before the jury as the State's experts and were used to refute testimony of the experts for the defense was a necessity which, though present in this particular case, had no effect whatever on the expression of their opinions. They had no interest in the case beyond this. Inasmuch as their opinion had been made up long before the theory of defense was known and without any consultation with the legal side at all, it was a matter of indifference which side made use of them or how much in favor of one side or the other their testimony might tend.

The State expert, Dr. C., refused to substantiate the diagnosis of the defendant's expert in any particular, denying the existence of a great degree of degeneration in the prisoner. The ground taken was that such abnormalities as were present were so commonly found that in this case they could have no special weight. The position of this expert was well taken, as it is an undeniable fact that signs of degeneracy by themselves no longer excite the respect that they once did. If they are present in any marked degree they probably have a certain confirmatory value. Beyond this they have none. Certainly a diagnosis based upon their presence alone, or a diagnosis which has its starting place from them, has no special strength. To the hypothetical question of the defendant's lawyer the expert, Dr. C., declined to answer, saying that he could not swear that the man was either sane or insane. The correctness of this position is unassailable. From such a hodgepodge of ill-related facts, inconsequently arranged and put together solely for the purpose of proving a theory of defense, no physician is entitled to draw any conclusion whatever. In this connection, it is of interest to quote the statement of the judge, which was made in regard to an objection on the part of one of the attorneys. He said that "the value of the testimony of any expert depends upon the care with which he has made an examination of the subject, as well as the truth and accuracy of the facts upon which it is predicated, and if there is any fact upon which it is predicated that is untrue, the opinion is not worth anything. That is true of all expert testimony not only in the medical profession, but in any other." If it were added to this that it is necessary that the expert should be absolutely unbiased and that he should not be held to any predetermined theory, this would approach very near to the ideal of an expert's position.

The second expert for the state, Dr. D., declined to answer the hypothetical question of the defense, saying that he could not determine from the data contained in it whether such an individual was sane or not. He, however, was able to say that from his examination of the prisoner there was no evidence of insanity. The judge then added the following in explanation, apparently with the idea of rendering the question capable of a proper interpretation:

"Take the hypothetical question as being the life of this defendant and his father and his mother and his family, and then take your examination of this man and the facts as you elicited them from him from the mental examination, what would you say?" A. "I could not answer that, your honor."

The ground for this expert's refusal to answer this question should be apparent, especially to every physician who believes that a careful examination of a patient is necessary to a just opinion in regard to the case. Inasmuch as in the hypothetical question, the necessary data were not included, he was justified in the position he took. Certainly no one in the practice of his profession is required to make a diagnosis of insanity or sanity unless he is satisfied that all the facts that are obtainable are at his disposal. That they were not present in the hypothetical question as put is not open to argument. There is no reason particularly why a physician in a court of law should suddenly depart from the methods of training and of careful study that he is accustomed to exercise in other phases of his work. There is no reason why a legal necessity or custom, or whatever it is, should make him say things on the witness stand that he would be ashamed of saying before a medical society, for example. The laws or rules of evidence have their proper place and are of great value, but an expert on the stand is no less a physician on questions of medicine there than in his office or hospital or clinic.

A hypothetical question involving medical opinion should be framed in such a manner that the medical point of view is never lost sight of, and until such a state of things is well recognized, the refusal of an expert to answer them should be sustained. It is only by the constant repetition of this attitude that reform will come about. The prosecution now added their hypothetical question to the one of the defense, thus complicating the situation. To this the expert added: "The addition that you made makes the evidence in respect to his sanity much stronger." The court asked what would you say, sane or insane? Answer: "I can not answer that, your honor, because there are evident contradictions in the question and there is not data enough concerning the things that I would have to go upon. The court: What do you mean by contradictions? You are given the history of this man and, assuming that the facts stated in the hypothetical question are true, and also assuming that the statements of fact contained in the question put by the counsel are true—coupling that with your own examination as being true, what would you say as to the final result, in your opinion? A. I am afraid that I could not conscientiously answer that.

This ended the expert part of the trial. The verdict returned by the jury was in accordance with the state's assumption that the man was sane. The defendant was convicted on several counts and sent to the workhouse to finish his sentence.

It is questionable if the expert testimony in this case had any especial weight with the jury one way or another. When the experts were as far apart as was the case in this trial, the jury is inclined to disregard their testimony altogether. So far as this trial is concerned, the medical testimony which ought to have been of the greatest weight, failed of its purpose, and the fault was chiefly in the method by which it was obtained and presented, and not so much with the experts who were active in the case.

As was stated in the introduction to this paper, the attempt at a critical analysis of the expert testimony in the Jack the Stabber case was undertaken with the sole purpose of demonstrating the confusion resulting from the methods now in vogue in the courts, in respect to obtaining and applying expert testimony. It might be stated again that no personal criticism of the various experts was intended. That a controversial element is apparent, is due to the method of exposition used and not to any desire to take an advantage which the unopposed position of the writer gives him.

The main points of the criticism advanced in this paper may be stated as follows: 1. The custom of using expert testimony as a partisan argument. 2. The use of a hypothetical question to sum up the facts obtained in the evidence in the case and the use of this question by the defense and the prosecution each in his own way; one suppressing and the other adding or emphasizing facts in accordance with a preconceived position. 3. The effect of this in preventing the experts from giving an absolutely unbiased opinion definitely medical in every phase.

It is probably true that the ideal method, which in this instance is the method of common sense, will not be reached for a long time. The chief obstacle toward accomplishing this end is the opposition which the body of practicing lawyers would bring to bear. They would see in it an attempt at infringement of their prerogative which legal custom has permitted. This privilege consists in the unquestioned right of an attorney to use any means sanctioned by legal usage to strengthen his client's case before the jury which tries him. It is difficult to see a way out of this unless there be given a choice of methods in each case with the right of refusing to take the position which a body of unprejudiced experts might advance. This might be the first step in the education of the courts toward the more just way. In criminal cases where the State's position is always assumed to be that of an unprejudiced party, whose sole duty is to get at the truth, the defense could with perfect safety to their client, accept its ruling in questions such as were present in this trial, for example. A commission of experts therefore, acting for the State as advisors, would by virtue of their position be entirely unprejudiced.

Concerning the utility of the hypothetical question as it is used today,

there can be little doubt that it has outlived whatever importance it ever had. Its necessity is no longer obvious and its power one way or the other seems to grow less and less. A medical opinion to be of any value must be based upon as complete a knowledge of a case as it is possible to obtain. The evidence in regard to the medical side of a question should never be limited by any rules of evidence originating in the strictly legal aspects of a case. The data concerning the past history and the present illness of a patient and any other facts that are required to be known should be obtained in whatever way is open to the examiner. The facts are of much greater significance than the method of obtaining them.

The legal procedure or the rules of evidence should be so changed that in the medical expert testimony at any rate, no obstacle should be thrown in the way of obtaining the complete truth. Then it might be possible for such testimony to occupy the important place which, by the very nature of some cases, it ought to occupy. When it is admitted that in many instances the whole question is one of a medical nature, the necessity of this change becomes apparent.

In regard to the third point: It can hardly be expected that a physician can rise above the methods which are used in obtaining his opinion. If this method is sanctioned by the best usage there is little that he can do once he has accepted the duty of appearing as an expert. After all, he is asked to form an opinion that is prejudiced and is openly admitted to be so. If custom permits the use of a physician for such purpose there will always be found capable men who will so act. The one means open to such as desire a better state of things is to refuse to prostitute their medical knowledge to purposes of legal usage. By refusing to answer the hypothetical questions, unless they are correct medically, and stating satisfactory reasons for so doing, they can do something towards improving this phase of the expert problem.

The chief purpose of this paper will be achieved if these points have been rendered somewhat clearer to those whose duty brings them into the courts of law as experts, and if it has been possible to demonstrate to those whose interest in the legal phase of medicine is not very vital, the nature and the difficulty of the system of expert testimony as practiced at present in the courts of this country.

THE PRACTICAL USE OF THE ROENTGEN RAY IN EXAMINATIONS OF THE CHEST.

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For several reasons the employment of the x-ray for the diagnosis of intrathoracic diseases has not met the general approval of the medical profession; the principal reason no doubt is that few realize the range of possibilities or impossibilities that under the varying circumstances this most elastic method has of either confirming or disproving ideas formed upon a certain process in a given case. Perhaps the greatest setback was suffered in its inception, when all manner of means and methods were suggested for what was supposed to be exact measurements, and while they were not entirely erroneous many might be termed fanciful and some of them were more or less impractical. At that time so much was claimed for the power of this new agent and while the greater mass of the profession were not cognizant of these methods, those who investigated were, mostly, men from the ranks of practitioners who were only quasi-interested, soon found that in many observations error existed, and especially so when those unskilled in this line of work tried to reproduce work done by men who possessed better training. However, at the present time this fact is more fully realized, and those of insufficient training in this field do not expect to appreciate the detail. It is therefore the purpose of this paper to draw attention to some interesting observations that were in several instances a decided aid to all concerned. But, before beginning, it would be well to give a short resumé of the method used in studying these cases as well as some explanation to elucidate points that are more or less obscure, and generally not accepted by many radiologists.

In undertaking the study of a given case it is better to have one person go over the case by the ordinary methods of examination while another takes it up from a radiologic standpoint. Both examinations are then compared and mistakes found by either method are corrected by re-examinations. When this procedure is carefully carried out the best results are to be expected, and in many instances points will be cleared that otherwise never would be revealed.

As to the method to be pursued in the x-ray examination, it is best to study the chest as a whole with a large fluoroscope in several different positions, carefully noting all points of interest, which is best done by drawings. This consists in the observation in the general relation of the different organs, the movements and light reflexes upon breathing; after this a radiograph is made to study further detail of lung structure. It should be made in the shortest possible time, which is only accomplished by the most powerful coils. Some radiologists claim that a good radiograph is

LEFT.

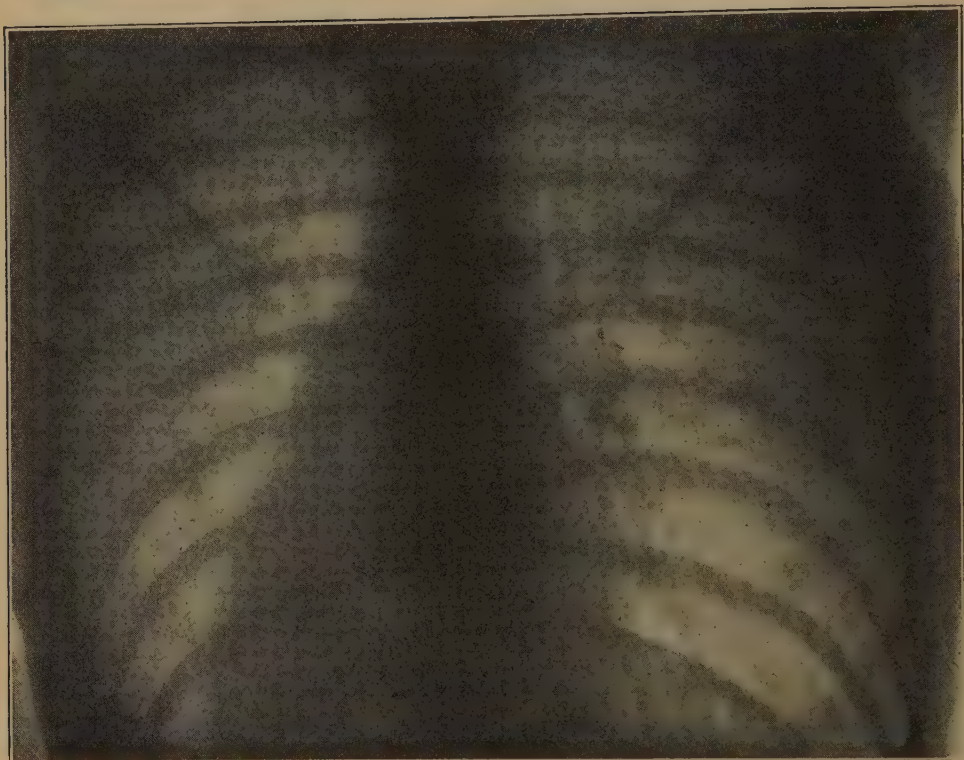
RIGHT.



Boy sixteen years. Enlarged heart, but lungs clear. A few scattered lymph glands and position of the bronchi are easily seen.

LEFT.

RIGHT.



Case of early pulmonary infection (tuberculous) following an attack of typhoid fever. While the apices are clear it will be noticed that the bronchial glands in the central portion show considerable involvement.

all that is required, but if this means alone is to be employed they certainly cannot appreciate the movements of the different organs, for these movements often give us a decided clue to some pathologic process that otherwise would not have been observed, and then again after taking a general survey of the chest it is possible to obtain that position that will give the best possible radiograph.

A great amount of distrust has been caused by some operators trying to study too much detail in a given case and then again by trying to explain it to those who cannot comprehend it. A better method is to give an opinion in language best understood by that individual.

If the radiographer will work in harmony with the clinician many points of interest will arise and in some instances a positive diagnosis can be made that by other methods alone would be impossible; and with all due regard to those experts in physical diagnosis who claim that this method is superfluous, it might be suggested that if their cases were carefully studied, in conjunction with the x-ray, mistakes, which slip by

LEFT.

RIGHT.



Case of sarcoma; pedicle attached to diaphragm; patch of lung structure can be seen through the dense shadow which, when examined by the fluoroscope, still showed inflation. Heart shadow on right side, with large vessels to the neck.

them; might be averted. The instances illustrate the practical value of this method in some obscure cases.

Dr. John McLean asked to have the chest of a patient examined for a suspected tumor. The history was obscure, dullness extending over the whole left chest and on the right side almost to the right axillary line. The patient had been in several of the larger hospitals of the city where his chest had been repeatedly punctured with the idea of relieving an effusion; however, they all resulted negatively. X-ray examinations showed that the dullness was due to a solid mass and not to liquid. This was confirmed by a post-mortem examination about three months later, when a large tumor was removed that occupied the whole left chest, extending well over into the right, springing from a small pedicle attached to the diaphragm. Microscopical examination showed it to be a sarcoma. The differentiation between a tumor and an effusion was made principally by the examination by the fluoroscope, which showed the constancy in the

shape of the shadow during respiration and during different movements of the body, as well as the fact that some lung tissue was well below and posterior to the tumor, and, at the same time, the heart shadow was in an unusual position. The patient at this time was too far advanced to be benefited by any form of treatment.

In another instance a patient was saved a needless operation and unnecessary suffering (11.22.05. No. 35182). A. C. was supposed to be suffering from an empyema. Repeated tapplings had failed to localize the suspected pus. Examination by the x-ray showed that it was not an empyema, but a large abscess, with considerable chest involvement otherwise, and a few days later this was confirmed by post-mortem examination.

A more fortunate instance where the abscess in the lung was localized and the pus removed by operation was reported by Drs. Talley and Jopson in *Arch. of Pediatrics*, p. 684, 1905.

While the cases that have just been given are a few examples of the extreme types, we may swing to the other end and show cause why this method will be a decided aid in the beginning stages of disease; instances where we, at least many of us, are in doubt as to the exact nature of the existing pathologic process, and while it must be admitted that errors are few, they do and will occur. At the same time it is decidedly more rational to believe that two examinations by different methods will check up fewer errors than two examinations by the same method, even if the examinations are made by different individuals. It must be understood that this method is not to supplant the ordinary methods which have been of so much value to the diagnostician. For ease and rapidity, and general application, the present development of physical diagnosis is not to be excelled; but mistakes will happen, and these mistakes are not from carelessness but from what might be termed a confusion of signs, and it is in these instances that the x-ray examination will be of value. An instance where the x-ray will be a decided aid toward establishing an early diagnosis was mentioned by the author at the meeting of the Pennsylvania State Medical Society, 1906. The case was one of acute leukemia, where the glands of the chest were quite evident several weeks before the external glands gave the slightest evidence or suspicion as to the exact nature of the disease.

At the same time the bronchial glands are no doubt a greater factor in most pulmonary diseases, especially of a tuberculous nature, than has been commonly supposed. The role of the lymph gland in other parts of the body is usually of great activity in all pathologic processes; then why is this not the case here? Then again by some authorities it is believed that all lung infections happen through the mouth by infection of the glands of the neck, then downward towards the lung. Accordingly why would it not be rational to suppose that the bronchial glands

would give the first evidence of lung infection, long before there was any serious degeneration of pulmonary structure?

If the chest was carefully examined in all cases where slight variation in the daily temperature exists, often accompanied with slight rigors and perhaps malaise, no doubt the explanation would often be found. An interesting instance is given by Dr. Talley in *Journal American Medical Association*, Feb. 24, 1906.

Another point that is often overlooked in studying the chest from radiographs alone is the slight enlargement of the vessels, small aneurisms. This fact is very well presented by Baetjer in the Annual Report of the American Roentgen Ray Society for 1906. In this report he also states that 5 per cent of 108 cases examined were discovered by x-ray examination, there being no physical signs that pointed to their existence. Certainly in this class of cases if relief is to be expected the sooner the patient realizes his condition and changes his mode of living the better it will be for his general welfare. At the same time in cases where the aneurism is easily mapped out by the ordinary physical signs, certainly a more comprehensive idea is to be obtained by the x-ray, and if any operative procedure is to be employed, a much better and surer idea of the parts with their relations will be gained if a previous x-ray examination has been made.

Before ending it might be well to call attention to the fact that the x-ray is a dangerous agent in the hands of the unskilled, while the patient is apt to suffer from misinterpretation of the different shadows and both the patient and the operator are likely to suffer physically from burns. And while this article might give the impression that the x-ray was used with more or less indifference, such was not the case. The technic employed has been fully described in an article in the *Jour. of the A. M. A.*, Feb. 24, 1906, and if the instructions are carefully followed, accidents will be rare. The profession should realize that burns are a serious matter and are easily produced when the apparatus used is not fully understood. The operator should never be in the direct path of the x-ray and the patient should only be exposed for the shortest time possible consistent with a thorough examination, and it should always be in the mind of the operator that the given case under examination might be that one who possesses a peculiar idiosyncrasy to the ray. If the examination is conducted accordingly, the use of this method will be more apt to gain popular favor.

HEALING BY FAITH.

DISCUSSED FROM THE STANDPOINT OF A PHYSICIAN

By J. M. BRADLEY, M. D., St. Louis.

Philosophy, theology and medicine touch each other at many points today as they have ever done, and there is a common ground on which all may stand and on which the physician should speak with as much authority as the priest or the philosopher. The priest treats the soul, the philosopher studies the mind, but the physician treats man, composed not only of the body, but the body plus the mind and soul, and recognizes that as the states of the body may affect the diseases of the soul, so also the conditions of the mind influence the states and diseases of the body.

To this statement, exception may be taken in a very large class of persons, mainly those who have never taken the trouble to inform themselves of the facts, accessible to everyone who chooses to investigate; and by that other class who would not admit any such premise because it would conflict with the prejudiced views which they now hold, nothing being more difficult than to revise our opinions and believe as true that at which we were wont to scoff.

That the mind does influence diseased states of the body we have abundant testimony, handed down from all ages, showing that it is so not only now, but that it was so in every age and race and was known to the people. In ancient times the influence of the mind over the body was not stated in just those terms and was shrouded into mysticism and superstition interwoven with the various forms of religion peculiar to the time and place. We have accounts of numerous miracle and wonder-workers in Egypt, India, Greece, Rome and Scandinavia, and among the followers of Confucius, Zoroaster, Brahma and Buddha; among Catholics and Protestants, Jews and Gentiles; among peoples civilized, semi-barbarous and barbarous.

In more modern times we have the cures of Mesmer, and at Nancy and Salpetriere; Christian Science, Dowieism; by charms and idols; in India, Africa and China. No well-informed person doubts these cures, occurring under such a variety of circumstances and authenticated by thousands of observers. It is equally preposterous to ascribe them to any superhuman or supernatural cause. They are all examples of the influence of mind upon the physical states of the body, and whether that influence has been exercised consciously or unconsciously, or by the conscious mind or the sub-conscious mind, or whether excited by relics, idols, faith cure, mind cure, christian science, spiritualism or what not, in all, the *modus operandi* is the same; the patient must be possessed of a faith in the efficacy of the method he is about to utilize. His sub-conscious mind is stimulated to activity and faith by various suggestive means and

the method will be more efficacious in proportion as he believes, though belief is not essential and results may at times be accomplished without belief, as belief implies an action of the conscious mind, while the cure is effected by the sub-conscious.

There are two chief views concerning these works, even among those whose business it is to know better. The man who prides himself upon his mental attainments will say these cures are chicanery and deception. The religiously inclined will believe the marvels they hear, and if, perchance, they have been accomplished through the creed which they profess, it is to them but another evidence that they have chosen wisely in being a member of that group which so plainly bears the mark of divine favor. On the other hand, if the cures of which they hear have been effected through the instrumentality of some other church or "ism," they say either "it is deception—untrue," or "hands off; this is plainly the work of an evil power with which we must have no dealing."

It is certain that there is often a large element of deceit intermingled with the measure of truth, but the real position is midway between these two extremes, not denying them in toto nor giving credit to the supernatural, but classing them under the head of mental influence, the action of the sub-conscious mind.

And think it not that these cures are of imaginary diseases, because we must carefully distinguish between imaginary disease and diseases of the imagination. In the first the disease has no objective existence or symptoms, while the second is a real functional disturbance, but due to imaginary causes. An imaginary disease, no matter of what character, is a disease that the person thinks he has but in reality has not, as can readily be proven. A disease of the imagination is a real and bothersome entity, one which the patient has and is just as much a disease as is pneumonia or smallpox.

While cures performed by the sub-conscious mind are principally of functional nervous diseases, which include a large group of diseases, with innumerable symptoms, the power for good extends to many others and to organic diseases, which latter are not cured *per se*, as in the first class, but in which the psychic centers so stimulate the physical functions that resistance to the disease process is increased and so indirectly contributes to the recovery of health. The operators of the various systems of healing, on the other hand, being untrained in medicine, are ignorant of the distinction between different classes of diseases and their diagnosis and in applying their mental or faith healing to organic diseases, or infectious diseases, are very likely to make and frequently do make most lamentable errors, working irreparable damage to the patient, if indeed they do not indirectly cause his death.

Let it be plainly understood that nothing here said is intended to be

taken in a controversial spirit, or as an attack on the religious opinions of any one, no matter how much we may differ in our explanations of the points under discussion. To assail a religious faith or system of ethics wantonly and deliberately is a reprehensible and serious matter; it may cause far-reaching harm, the extent of which cannot be foretold, and do untold damage to the morals and well-being of a large number of people, and it is rarely or never agreeable or in any way beneficial to any one concerned.

It is criminal to destroy an honest faith in any religion or system unless we can provide a better substitute, which would very likely not be at all welcome, and it is no part of our plan or endeavor. Proselytism, though it is generally vigorously resisted, is in itself not a morally censurable act, no matter how much its apostle may be at variance with his opponents, because he believes that he is substituting a religion or system that is an advance or improvement over that which he tries to displace. The iconoclast, on the contrary, is very properly a force to be dreaded in proportion to his ability. It is his delight to destroy, or attempt to destroy religions and ethical systems that may be doing a world of good, yet, having accomplished their destruction, he would offer nothing in return and has nothing to substitute for that which he has demolished. Yet, around almost every religion there has in course of time come into being certain abuses and superstitions that it were well to destroy, and religion would profit by their destruction. Mysticism and superstition constitute the illogical part of every religion, or, rather, not a part of religion, but a parasite clinging to and fattening at the expense of religion, often, indeed, like parasites of the vegetable world, in course of time choking the life out of its host.

The chief tenet of mysticism and superstition is contempt for all human endeavor and a tendency to ascribe all things out of the ordinary to the supernatural, never stopping to investigate or seek an explanation without having recourse to the superhuman. Emotional temperaments being mostly to blame for this mysticism, we find its most numerous followers among women. Women of all races, creeds and conditions being most emotional are also the most religious and the most given to following the extremes in religion and the various fads and "isms," and the quickest to credit all things to the supernatural.

While this is so principally in woman it is not exclusively their prerogative. We find many men, who though they try to suppress and hide it are just as emotional and superstitious as their sisters. Down in the heart of every woman and most men is a seed of superstition, transmitted from a thousand ancestors, down deep in some, near the surface in others, and it needs only the rain of circumstances to bring forth a flourishing weed.

This being so, it explains in a measure the large following of women

principally obtained by the various healers, who are unconscious frauds and charlatans, claiming to heal by power of the supernatural, and they are more astonished than the patient when a cure is effected. Strangely enough, the very class of cases where these healers could accomplish much real good, e. g., in functional, but not organic, nervous diseases, are the very ones who are slowest to patronize them.

If these good healers were less visionary, were endowed with more common sense, and had some trained medical adviser to reject the cases of an organic character, letting them practice principally on cases of functional nervous diseases, backed as they are by the superstitious faith of their followers, which, when rightly wielded is an enormous power for good, they could frequently accomplish better results than the physician in such cases.

It is inconceivable how people will risk their health and limbs to ignorant pretenders. If they had a valuable watch or delicate piece of machinery to be fixed, they would not entrust it to a laborer who had no knowledge of its mechanism but would take it to a skilled mechanic. While these faith healers are unskilled laborers when it comes to fixing the disordered body, and with no license to practice medicine, still, as indicated above, in selected cases, consisting mainly of functional nervous diseases, which should be selected not by themselves but by a trained medical man, they should be permitted not to give drugs but to practice their mental or faith healing as such upon their believers, and would undoubtedly accomplish much good, the cures being produced not by the intervention of the supernatural, but by the power of the sub-conscious mind of the patient stimulated by suggestion and faith in the operator.

Physicians have frequently been asked why it is that so many people are followers of the various systems of faith cures, using the term "faith cure" in its broadest sense, if it is not true that they heal diseases by divine favor.

We must admit that cures are accomplished by these means, not regularly, nor with any certainty in any particular case, yet in a percentage sufficiently large to keep up the confidence of its followers, but that these cures are effected by any intervention of the supernatural powers we cannot possibly admit. There are many unostentatious physicians practicing who make use of the power of the sub-conscious mind, and at times with seemingly miraculous cures, but such a physician does not cry out to all the people that he has worked a miracle because he knows that he has simply utilized a power lying dormant in the patient's mind; a power like any other instrument or means in medicine that must be used only in particular instances and not applied haphazard to any case that comes. The objection to all these systems is the same. At some time or other some person discovers anew the power of the sub-conscious mind in the cure of disease, credits it to the supernatural, and, thinking himself chosen

among men, sets about to formulate a set of religious regulations, and the cures he performs are taken as miracles worked in testimony of his apostleship. Thus they have formed a religion based on a fact in nature, no more important than hundreds of other facts, such as electricity or wireless telegraphy.

To them it is all-important and seems very wonderful, as indeed it is; but they have merely grasped the outer edge of a great series of facts in nature and cling thereto with a determination born of despair. The power inherent in the mind is wonderful and has never been fathomed. What we know of it is like the spectrum, a certain minor portion of which may be grasped by the unaided sense of sight, but above and below the visible portion exists the greater part of the spectrum, giving us the ultra red at one end and the ultra violet at the other, the heat and chemical rays, and they are none the less potent because the limitation of our sense of sight does not permit us to see them.

So it is with the power of the mind; we know just a little about it, but beyond the territory with which we are familiar there stretches vast regions unexplored which contain many wonderful things. We might almost say with Ligeia: "Who knoweth the mysteries of the will with its vigor: Man doth not yield him to the angels, nor unto death utterly save only through the weakness of his feeble will."

EDITORIAL.

THE GENTLE ART OF ORATORY.

When Whistler wrote his famous tract, "The Gentle Art of Making Enemies," he laid bare to an inquisitive public certain defects in his character which made possible his desire to surround himself with enemies. Of the many abnormalities noted, he failed to mention the gift of oratory for reasons best known to himself but which should have led all others for its prostitution by little wits made large by accretions of pseudo-classicism often converts one of the Fine Arts into something unspeakably monotonous and tiresome.

That Professor Osler is a good doctor and a good lecturer on medical subjects we do not deny, but that his recent Harveian Oration, "The Growth of Truth," delivered at the Royal College of Physicians, London, October 18th, is the modern conception of oratory, is attenuating that much-abused term until it is equivalent to cullings from the *litera scripta*—the musty volumes and documents—to be found in the British Museum and the Bodleian Library, Oxford.

De Quincey, in his essay on Style, mentions the obtuseness of the British ear to the mere music of words and furthermore proclaims that British writers and critics consider the matter of a book paramount to the manner. This being the case, we shall not quarrel with Professor Osler's literary manner, but with the solid matter which he so lavishly uses, sometimes giving credit to a forgotten author into whose well he dips his ever-willing cup and sometimes not doing so, thereby illustrating a truth we have often heard mentioned that when one reads merely for the sake of memorizing, treacherous memory quite often takes unto itself all honor and heeds nor man nor conscience.

The *British Medical Journal*, fearful lest someone might think Professor Osler spent weary days and weary nights poring over ragged books in forgotten corners of England's greatest libraries in anticipation of his herculean effort, hastens to print editorially, "there is no display of learning hastily borrowed—or 'conveyed' for the occasion; he speaks out of the abundance of a store garnered during long years, and constantly added to by loving search in fields which to most men yield nothing." Just what the writer means by the word conveyed in quotation marks is not clear to our American way of thinking, especially after reading Professor Osler's oration, for if ever in literature, and the panegyric must be considered such, not on account of its intrinsic value, but on account of its time and place of delivery, things were conveyed bodily for a purpose, we have them here. Industry is evident in every paragraph, not

the industry which talent engenders but rather the sort of industry that makes us pause and wonder that one small head can contain, even for a day, so many "conveyed" and such a paucity of unconveyed ideas. Innumerable quotations may impress the provincial mind, fed as it always is on encyclopedic lore, but the great world demands a clear, lucid and concise appreciation of a great man's life.

After stripping Professor Osler's oration of the pendency with which he has cluttered the normal existence of a great and good man, Harvey appears before us as a shadow, not as the icon one would wish. And this is wrong for many reasons. In an Harveian address, as in any other, the portrait of the subject is more important than the learning of the orator. But the portrait must remain a shadow so long as it is hampered by pedantic frills and furbelows, the outcome of a peculiar vanity on the part of an orator who mistakes the words and thoughts of others for insight and understanding of the times and character of a historical figure.

PSYCHOTHERAPY.

It seems evident that there is taking place at the present time a movement in a special sort of therapy which is worthy of comment. It is no mere coincidence that within the space of two years there have appeared in various places and in various tongues, a number of articles on the subject of psychotherapy. All these articles show, in spirit, a kind of common tendency and purpose so similar that it seems reasonable to find behind their production the same sense of need.

Dubois' book on the psychic treatment of disease, translated into English, Dejerine's paper on the psychic treatment of neurasthenia and hysteria by isolation in the wards of a hospital, Putnam's experiments with the psychoanalytic method of Freund at the Massachusetts General Hospital, Barker's paper on the result of psychic treatment at Johns Hopkins, and the very recent monograph of Oppenheim on the use of psychotherapeutic letters are merely a few examples that come readily to mind.

As old as medicine, perhaps, there was a realization of the profound influence exercised by the mind upon the individual, either through the agency of oneself or another. For many centuries this influence was wrapped in mystery as being something far beyond the human intellect to fathom. Gradually, in ways that are not readily understood, this enormous therapeutic power was relegated to quacks and charlatans, or if used at all, in so haphazard a way that nothing definite could be gathered from it. If the history of therapeutics should ever be written, an important chapter would be concerned with the effort to trace the devious current of the use of the mind as a curative agent.

With the growth and development of mesmerism and hypnotism the first step towards a rational and conscious employment of the mind to

cure disease was made. In France especially there quickly sprang up a school of therapists who saw in such artificially induced states a power of tremendous significance. Coincident with the rise of hypnotism, there developed a more profound sense of the need of a better understanding of the clinical side of the disease, that seems the chief object of the new therapy, that is hysteria. It was but a step to take advantage of an agent which was in the first instance a means of therapy for the study of hysterical symptoms. As a result hypnotism lost some of its importance as a factor in therapy and gained in significance as a means of investigation. At the same time or a little later, there came into the movement, or was part of it, a new element which was called suggestion. It was soon found that it could be made use of practically in the same way as hypnotism. The medical world, not slow to seize upon any agent with a therapeutic promise, eagerly followed and it was not long before suggestion became a sort of a favorite prescription among the practitioners. Suggestive therapeutics arose as something having a special meaning and needing no special knowledge for its use. Somewhere about this time there came a great wave of enthusiasm for the use of electricity in its many forms, as a wonderful cure-all. As a result, the mind of the average physician was in a very mixed state, with electricity, suggestion, hypnotism all correlated and each used to explain the other in the terms of all of them. This brief sketch will tend to show how far afield the art of psychotherapy was allowed to wander.

It seems strange that no one, amid the maze of contradictions, charlatanism and self deception, had the courage to face the real problem. This problem would have concerned itself with a serious inquiry into the data at hand for the development of a system of psychotherapeutics. The purpose of such an inquiry would have been in the first place to free the whole subject from the methods of fakery and quackery, to bring into light the known facts which psychology would offer, to appreciate the proper place which hypnotism and suggestion have, and to cultivate a method of application which would be, at least in its spirit, scientific.

Freund in his psychoanalytic method, probably, made the first serious step in this direction some ten years ago, and since then there has been a slowly increasing body of facts and experiences at the service of those who are seeking for them. Upon this, after a time the new therapy, new in the sense of being more honest and rational, might be built.

If we are to use the mind as a therapeutic agent against another mind of practically the same kind we are bound to know something of the power we are using and the methods by which the power is applied. The first requisite, perhaps, is to remove swiftly and thoroughly all the atmosphere of mysticism and mystery which has clung to psychotherapy and choked its growth. Then we must face the important fact that by the very nature of the instrument we are using the limits of its development

are somewhat narrow. The mind at best is an uncertain power and in the present state of our knowledge about it, it is better to fully recognize this fact. The therapeutic limits are, of course, very evident and it would be better in the present stage of the thing to see clearly that its application is to stop short at the organic diseases of the nervous system, while recognizing, it is true, that even here there is some place for its use.

All these limitations and suggestions, with many others, with the proper spirit of modesty in face of the difficult problem before us, might be said to be the proper position that we now are justified in taking. In this spirit the newer tendency as exemplified in the papers mentioned above and others of like importance, should be examined. It is not unreasonable to believe that a new era in psychotherapy is beginning which is to supply a want that has been felt by every earnest worker in the field of the psychoneurosis.

"QUELLE BELLE CHOSE QUE LA MEDECINE."

The organization of our medical societies and associations furnishes a proper medium whereupon to implant and nourish a peculiar form of political endeavor, peculiar from politics in general, in that the medical profession has certain distinct characteristics; it is bound together by certain written laws and certain tacit understandings, as to etiquette and ethics. On the surface, medical men are supposed to treat each other with consideration, hide each other's shortcomings, and "guard well that erring member, the tongue." In consequence, medical politics is surrounded and encumbered by many hindrances to free and open speech, but grows upon a sub-soil of the most Machiavelian intrigue.

Let us look momentarily at this court of ambition, the medical society. Since the inception of medical societies the importance of holding the presidency has in all communities been ground for a contention smacking of local ward politics, under the surface, but presenting a serene and smooth sea of smug courtesy above. These conditions, which go back, no matter how long, have been lately reinforced and accentuated by the association of our local bodies with each other, and the establishment of a higher Hall of Fame, a national association.

The presidency of the national body is the focus towards which all medico-political rays converge. The system of this convergence is quite elaborate and establishes a veritable hierarchy. The small county society and the city society are the two first steps. Next to them comes the state association, then an association covering a section of the country, and lastly the great national organization, which sends its dendrites through the entire system. Surely, the national association holds out in its officer-ship a place where the most swollen egotism may be satisfied and the most serious form of hypertrophied ambition soothed.

It is not our purpose to criticise medical organization. We are heartily in favor of the same. What we do wish to develop, however, is the danger that arises in such a perfectly organized machine of bossism and the methods of politics common to a republican form of government. We feel instinctively that the tendency is toward the development of medical politicians, men who have for their aim the holding of office. This, when not backed up by worth to the profession in a medical way, is a dangerous tendency. We believe that the office should seek the man in our medical associations, much more than in any other form of organization. Our first aim should be the advancement of medicine, not the accumulation of titles. From another point of view, these political tendencies have a distinctly bad influence on any medical community. Jealousies arise; enmities are created, with and without cause; and the scene, figuratively speaking, becomes one of blood and lust, rather than one of brotherhood.

It is not possible, of course, to have our elections unanimous, but we feel that only such men should hold office in medical organizations as have demonstrated beyond question their worth as medical men, not as politicians. Let this condition hold in the first steps of our national association, and the future of our organizations, as a whole, for the advancement of medicine, will be assured.

THE OPSONIC THEORY AND MR. BERNARD SHAW.

The stage as a purveyor of disease has had some great successes. The year 1852 is memorable on account of the first attempt on any stage to produce a clinical play—*La Dame aux Camélias*—with its harrowing heroine in all sorts of theatrical demonstrations of tuberculosis. This tentative effort to ascertain the morbidity of a French audience proving successful, authors vied with each other in exploiting the whole gamut of the pathological and at rather short intervals the world was benefited by *Le Sphinx*, in which the heroine had many epileptic seizures with frothing (?) at the mouth; *L'Assommoir*, illustrating the evils of dipsomania and *Ghosts*, showing what hereditary syphilis with dementia really looked like behind the footlights.

Although audacity is the keynote of all these plays, we imagine they served a purpose in so far as they made men and women who really thought after leaving the theater, careful as to the pathological conditions of their friends with the view of narrowing down their social circle by exclusion. Furthermore, a point of view gained by theatrical superficialities on certain diseases, made certain people anxious not to form matrimonial alliances with objectionable members of society; and to complete the picture a very generous attitude informed with selfishness and distrust was assumed toward themselves in consequence of a belief

that they were outside the sphere of morbid or pathological possibilities.

Despite the fact that the opsonic theory of Sir Almroth Edward Wright ranks with the discoveries of Pasteur, Koch and Behring and that a correct reading of Dr. Wright's articles cannot fail to interest the intelligent layman almost to the same extent as the physician, we hear on good authority that so keen and acute an observer of sociological progress as Mr. Bernard Shaw is at work on a play, entitled "The Doctor's Dilemma," in which he intends to emphasize the ridiculous side of a discovery which has been hailed by the medical world. Just as in the case of the plays mentioned at the beginning of this article, we already see the educational effect this will have on a modern audience. Instead of an uplift which would show people the way to strengthen their own intellects, irrespective of the opposing forces of superficiality and inanity, the lessons if there are any to be learned from maltreatment of a scientific topic, will be such as to put more foolish ideas into heads already heavy with pseudo-scientific thoughts.

No doubt the heroine will have the hitherto unknown stage disease—malignant endocarditis. Cultures will be made from the blood and the streptococcus found. A literary explanation of the necessity of knowing what microbe you have to deal with, will be given. Then the resisting power of her blood to this streptococcus will be tested and amidst great applause her resisting power or her opsonic index will be announced as 0.4. Shaw with his customary brilliancy will score when he makes one of his characters say that although the heroine had microbes in her blood she was not successfully auto-inoculating herself. The hero, a sort of Sir George Crofts in "Mrs. Warren's Profession," will be a patient with gonorrheal arthritis affecting the knee. A child with a tubercular knee, an ingenue with tubercles on both irises and an English soldier with Malta fever could make up the complement of the dramatic characters.

That the comedy will be a travesty on a subject which should be treated with delicacy and consideration on account of its intrinsic value to science, is a foregone conclusion. The real tragedy, however, will come in when the literary societies throughout the country dismember the theory in their own peculiar way. Already we perceive harbingers of interfering mothers violently opposed to the subcutaneous injections of bacteria in typhoid fever and tuberculosis. And floating on the highest crest of the agitation will be that dangerous but suave talker of doubts, symbols and esoterics—the professor from the insignificant university—who will expatiate on the Physiology of Belief.

COMMENT.

THE DISADVANTAGES OF A GERMAN EDUCATION FOR THE AMERICAN MEDICAL PRACTITIONER.

So much has been written on the advantages of a German education for the American physician that he who would take a stand against the wave of enthusiasm must needs be a brave, not to say a foolish, man to stir up a hornet's nest.

Enthusiasm is not to be undervalued when it is the resultant of a thorough and wise interpretation of a human act or of another spoke in the wheel of progress for the improvement of the human intellect, but when it is a mere bubble kept on high by the vaporings of chuckle-headed individuals, it is time to prick it in the hope that by doing so the purblind may be brought to their senses and the small voice of the few medical non-conformists may be heard.

The raw product that comes to our medical colleges makes strenuous efforts to over-educate itself in four years and then like any other superior person flies to Europe for another addition to the indigesta that are a weariness to his mind and body. Needless to say he returns with a smattering of German such as *Das Mann* and *Der Frau*, and a complete knowledge of surgery, garnered in three or four months by gazing through magnificent distances at an operating table (the subject is never seen) over the heads of hundreds of other students, and a dozen or so assistants who completely obstruct the view. Not only does his brief sojourn in Germany yield him little profit, but the many new and startling innovations outside the medical clinics obfuscate his brain so that commiseration instead of blame should be his due.

The German-American physician, on the other hand, is in a state of preparedness to profit by contact with new conditions. His knowledge of the language, his idealism more German than American, his point of view which makes him appreciative and discriminative at once when on German soil, yield him advantages over the non-linguistic American too numerous to mention. But he who is handicapped by knowing but one language, and has merely read of Germany in books, whose very essence is garbled, cannot expect an immediate adjustment of German conditions; in fact, a full month elapses before he feels himself orientated. As for the remaining three months which he wishes to devote to clinical observations, the lack of varied and complete cosmopolitanism makes him a mere "looker-on in Vienna," instead of a student profiting by working in the midst of things.

This is no disparagement of German medical knowledge, but a criticism of a large number of American physicians who, upon their return home,

express great dissatisfaction with their work whilst in Germany, when the truth of the matter is that their minds, steeped in American thought and American social conditions, are not receptive enough to grasp, in a short space of time, the fruits of German medical science. For these men, and they are the element that shall make us proud of medical progress at home, the medical schools at Boston, Philadelphia and Baltimore at present are second to none, both for clinical material and laboratory investigation. By going there their education may eventually take upon itself that better phase, derided as culture, but so much better than over-education which spells to-day nothing but a pinch of German, a little Latin and less Greek with which to bamboozle the public.

Fads and fancies have always been our besetting sin and no greater sin against advancement of true American medical knowledge has ever been committed in this country than the foolish attempts of wild-eyed enthusiasts of German universities to ruthlessly tear from the brow of American culture the few bay leaves we suffer her to wear.

POPULAR PHYSICIANS AS LITERATI.

The popularization of purely medical subjects is a rather deplorable phase of medical evolution through which we are passing to-day. No magazine seems to be exempt from the literary inroads of certain physicians, who for publicity and gain, give vent to emasculated utterances medical journals of standing would not print. Were these contributions written by strugglers eager to eke out their slender incomes by other than the precarious source of practicing medicine, our strictures would be superfluous. Such, however, is not the case; for in the majority of instances, well-known names appear over decidedly thin articles, a fact which makes us bold to state that the name, more than the contribution, attracts the editor.

We imagine these offenders of the scientific spirit which the earnest are solicitous to conserve, would not be at a loss for plausible reasons in extenuation of their meanderings in the realm of Belles-lettres: one of their reasons we can clairvoyantly guess, having heard it so often that it has become a twice-told tale. With rare self-abnegation they proclaim it their duty to combat the wrong impressions the public has been receiving from medical articles in newspapers, by publishing in the reputable literary weeklies and monthlies so-called true expressions of the scientific progress of medicine.

If the history of literature teaches us one lesson it is this, that with few exceptions, physicians who make excursions into pure literature or demean their calling by catering to a public whose interest in medical science is but a perversion of an innate craving for sensation, do small honor to the cause of furthering literary thought and literary growth.

Unfortunately, diametrically opposed to these opinions, are men of assured position in the medical world whose medico-literary performances month after month receive enough encouragement from the indiscriminate to make them think that they are active in the service of medicine when in reality they are guilty of an unpardonable delinquency. Moreover as a justification for their attitude these advocates of greater liberty for the physician who wishes to expound theories in popular magazines, will seek for precedents in the history of literature; and although it is possible to point with pride and for example to such predecessors as Samuel Warren, author of "Passages from the Diary of a Late Physician," and A. Conan Doyle of "Round the Red Lamp" fame, they do these writers as well as others such as Keats, Smollett and Goldsmith, physicians in their early years but distinctive literati later on, a great injustice. For none of them, with the possible exception of Warren, so long as they were physicians and surgeons, combined medicine and literature in newspaper or magazine articles to increase their prestige as practitioners.

LITERARY NOTES.

John Murray (London) is about to issue the following publications: Heredity, by Prof. J. Arthur Thomson, of Aberdeen; Recent Advances in the Study of Variation, Heredity and Evolution, by Robt. H. Lock; and the Manufacture of Paupers: A Protest and a Policy, with an introduction by J. St. Loe Strachey.

A. Stuber of Würzburg has recently published the second part of Vol. VI. of *Beitraege Zur Klinik der Tuberkulose*. The scientific activity of the contributors is shown by the following papers; Experimental research on soot inhalation in animals, by Aschhoff and Benecke; the diagnostic value of Koch's original tuberculin, by Roth-Schutz; and the agglutination in pulmonary tuberculosis, by Jessen.

The *Deutsche Revue* for November (according to the *Berliner Tageblatt*) will contain an article by Professor von Behring, which should be of the greatest interest to the medical world. The promise held forth is an "authentic exposition" of his recent researches on immunization against tuberculosis. The title, "Diphtheria Serum, Tetanus Serum, Bovo-vaccine, Tulase," indicates a completeness of his latter work which must silence the slightest murmurings of captious critics.

Burbank's *Production of Horticulture Novelties* is the title of an interesting paper by Hugo de Vries, Professor of Botany in the University of Amsterdam, in *The Open Court* (Chicago) for November. The appreciation is just and honest and is a calm criticism from a

famous botanist, who, despite his professorial duties, recognizes to their fullest worth the practical benefits to mankind from the work of Luther Burbank.

Die Umschau (October 27th, 1906) contains a series of hitherto unpublished letters written by Justus von Liebig, Friedrich Wohler, A. W. v. Hoffman, Herman Kopp and Wilhelm Weber. The contrast between Heinrich Buff, Professor of Physics at the University of Giessen, quiet, content, and most modest in his demands for improvements in the University, such as large laboratories, though devoted heart and soul to science; and Justus von Liebig, Professor of Chemistry at the same University, fiery, aggressive, demanding much and getting little from the municipality until his patience could stand it no longer and in high dudgeon he left Giessen for Munich, is brought out with considerable force and point. Although they were disparate natures, their humaner side drew them together and a friendship covering many years ensued. The letters, written in an intimate, unstilted manner, are full of grace and charm.

That the art of midwifery a century ago was not the science it is to-day is brought home to us with startling insistence in the recently published *Sainte-Hélène, Journal inédit de 1815 à 1818* by Général Baron Gourgaud. Napoleon's description of Dubois's excitement whilst attending the Empress Marie-Louise in her confinement is a rather humiliating account of the lack of mental stability on the part of a famous surgeon. "The day the Empress was confined," said Napoleon, "I promenaded with her for a short time, although she was suffering from slight pains. I was assured they would continue until 4 in the afternoon. Returning from the walk, I went to my room. Hardly had I arrived there when I rushed Dubois, pale as death and completely out of his head. 'Well, well,' I exclaimed, 'is she dead?' 'No, your Majesty,' answered Dubois, 'but the child is in a transverse position.' This was bad news, for I was given to understand that this happened but once in two thousand cases. I immediately went to the Empress. There was a great deal of talk about using forceps. The Empress protested. Mme. de Montesquiou assured her she had had them applied twice in her confinements and tried her best to overcome the Empress's objections. Her Majesty wept unceasingly. Dubois, at his wits' ends, awaited the arrival of Corvisart, whose presence, he hoped, would give him courage. The Duchess of Montebello was as one bereft of reason. At last the King of Rome was born, Corvisart holding the Empress. And to think, General, that for this stupid business I paid Dubois 100,000 francs! But Corvisart was to blame for the choice."

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

THE FAT SPLITTING OF THE GASTRIC JUICE.—Pesthy (*Archiv. für Verdauungs-Krankheiten*, XII., Nov. 4, 1906).—Pesthy has investigated this question by the analysis of one hundred different cases. He used in his tests the stomach contents obtained one hour after a test breakfast, mixing this with an equal part of a solution of the yolk of an egg and incubated for one hour. He then determined the percentage of fatty acids and unchanged neutral fats by the method of Volhard and Stadel. The one hundred cases analyzed have been divided into four classes; (1) Those with normal gastric juice; (2) those with hyperchlorhydria; (3) those with acolorhydria; (4) those with carcinoma of the stomach. In the first class the fat splitting power varied from a minimum of 10 per cent to the maximum of 67.4 per cent, with an average of 36.6 per cent. In the second class the variation ranged from 13.6 per cent to 57 per cent, with an average of 35.1 per cent. In the third the variation extended from 12.5 per cent to 72.9 per cent, with an average of 34.1 per cent. The fourth group, however, gave markedly different results, the fat splitting power ranging from 1.7 per cent to 7.7 per cent, with an average of only 4.1 per cent. The experiment demonstrates that the fat splitting power of the gastric secretion has no relation at all either to the amount of hydrochloric acid or the peptogenic power. Moreover, the fact that in acolorhydria the fat splitting power is good, while in carcinoma it is very greatly diminished, seems to be of decidedly diagnostic importance.

APPENDICITIS LARVATA.—Cohn (*Surgery Gynecology and Obstetrics*, October, 1906).—The various clinical pictures which appendicitis can form are well brought out in this article. The most diverse symptomatology—attacks of pain at any point in the abdomen, or even in the pelvis, nausea, vomiting, constipation, etc., have led to all the diagnoses in the gamut of abdominal disease. After the patient has been treated for months or years without benefit, he is classed as a neurotic. The author warns against doing the patient this injustice. "If we are not sure that the symptoms of which the patient complains are purely nervous ones, we may always satisfy ourselves by the relatively harmless exploratory laparotomy."

LEUCOCYTE FERMENT IN THE BONE MARROW, SPLEEN AND LYMPH GLANDS IN CASES OF LEUKEMIA AND PSEUDO-LEUKEMIA.—Jochmann-Ziegler (*Muench. Medicin. Wochenschrift*, Oct. 23, 1906).—It has been a matter of previous observation that the blood of myelogenous leukemia

contained a proteolytic, trypsin-like ferment, not present in normal blood. The present observations were made on six cases of myelogenous leukemia, one case of lymphatic leukemia, and two cases of pseudo-leukemia with a view of determining what element or what elements were responsible for the ferment. Plates of Loeffler's blood serum were used and minute bits of the organ or fluid to be tested placed thereon, the proteolytic power being reckoned by the degree of liquefaction taking place about the tested particles. Normal bone marrow, and in a much less degree normal spleen, contain the ferment. In the cases of myelogenous leukemia the bone marrow, and also the spleen and lymph glands, both of which had undergone intense myeloid change, were highly proteolytic. In a case of lymphatic leukemia the bone marrow had a moderate proteolytic power, but the greatly hypertrophied spleen and lymph glands were entirely lacking in the ferment. Two cases of pseudo-leukemia showed little difference from the normal. In all the tests the proteolytic power was in *direct proportion* to the number of *myelocytes* as revealed by the microscope in the specimens tested. The teaching of Ehrlich regarding the individuality, or specificity of the lymphatic and myelocytic cells seems to be borne out by these experiments.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

THE VASCULAR CHANGES IN NEW FORMATIONS AND IN THEIR NEIGHBORHOOD, AND THE GENERAL ARCHITECTURE OF THE VESSELS IN MALIGNANT TUMORS.—W. Goldmann (*Deutsch. Med. Woch.*, 1906, No. 41.)—This valuable and important paper was read before the first International Conference for the Study of Carcinoma, held in Heidelberg—A. M. Frankfort—this year. The review by Colmers is all that has as yet been published, but it is explicit and broad to a degree, so that its re-publication here is prescient of the value of the full publication when it appears. Goldmann bases his investigations upon the study of vascular degeneration on the elastic fibres, that after Weigert prove to be the most resistant of all tissue elements, and can be stained when all other elements have lost their characters. He could demonstrate by Weigert's method that in sarcomata and in carcinomata, even in the first stages, degeneration of the vascular walls obtains. The changes are very extensive in the venous channels, less marked in the arteries. Common to both classes of vessels are the following conditions,—the direct perforation into the lumen and the complete occlusion of a vessel by a thrombus that undergoes fibrous organization. The development of the connective tissues in the thrombus stands in direct relation to the amount of stroma in the original tumor. In a scirrhous it can be so marked that it is almost impossible to recognize the thrombus as originally carcinomatous. Goldman established finally the method by which tumor cells approach the walls of a vessel.

They proceed not through lymphatic canals, but by way of the vasa vasorum. The pathologic appearance, therefore, in an artery is a periarteritis, in a vein an endophlebitis of carcinomatous origin. Similar are the conditions in other canalicular structures limited by an elastic sheath, the glands and other appendices of the skin for instance. In perforating the canals of these structures the carcinomatous growth is not organized and rapidly undergoes degenerative changes. The changes in arteries and veins are considered by Goldmann as decisive in a diagnosis of the malignancy of a tumor. No other new formation brings about such a growth into and through canalicular structures of the organism. Goldmann extended his studies to animal tumors, particularly mouse carcinomata, and he found here the same conditions that obtain in the human tumor. It is very remarkable that single cells and groups of cells circulate with the blood stream in tumors that neither macro- nor microscopically show any evidence of metastatization. The observation proves that the mouse carcinomata are genuine malignant tumors.

The general arrangement of the vessels in malignant tumors Goldmann has studied in man and mouse by injections of bismuth and oil; from the specimens Roentgen pictures were made that allowed him to study macroscopically the circulatory condition within the tumor in comparison with that of the intact surrounding tissues. These studies demonstrated an enormous increase of vessels in the peripheral zone of a growing carcinoma. The increase may apparently disappear in stationary conditions and in degeneration. The arrangement of the new-formed vessels is enormously erratic, which is the more remarkable as late researches have shown that under normal conditions the arrangement of vessels is typical and definitely depends upon the function and development of the organ. A malignant growth destroys even in the beginning of its growth this typical arrangement. The new-formed vessels are almost all small in caliber; the larger vessels rapidly break up into small ones and into capillaries. The picture of a tree is never seen. The same condition obtains for mouse carcinomata where an injection of a special kind of ink into the circulation by way of the heart was used; the animals were hardened in alcohol and made transparent in glycerin. The enormous increase in the number of vessels is the more startling, as in the loose connective tissue with a scanty supply of blood the experimental tumors arise from a pulp of isolated carcinoma cells. The question whether these vascular changes are specific for malignant tumors is decided by Goldmann in the negative by extensive investigations on chronically inflamed, especially tuberculous and syphilitic tissues. Principally the changes, new formation and degeneration, are the same in these as in tumor growth. The vessels react on any deleterious influence, causing a tissue proliferation, as long as their vitality is intact. In carcinomata of long standing and great mass the decreased resistance of the connective tissue may be due to the fundamental loss of the capacity of vascular proliferation. The latter is not considered by Goldmann as only serving nutrition, but also as protective in warding off the invasion of harmful agents. Accepting such a view, the following facts become clear in their meaning: First, that in infection and tumor the changes of the vascular structures are the same. That in very extensive carcinomatous venous degeneration metastatization often does

not occur, above all the frequently made observation in man and animal, that the circulation may carry great numbers of carcinoma cells without leading to the formation of metastases. Microscopically it appears that these cells perish within in the blood. Analogy exists between malignant tumors and infectious diseases; that primary hæmatogenous infection is less serious than secondary infection. The author attempts to explain the origin of relapses and their long latency by certain vascular changes that he announces will be published in another paper.

Besides the great interest that theoretically this work must arouse, it is of great importance for the purposes of pathologic diagnosis. The anatomo-pathologic determination of malignancy of a tumor has so far been made dependent upon factors that, considered singly, are not conclusive and only in their complex demonstration will allow of a high degree of scientific certainty. The work of Goldmann increases this possibility to almost final certainty, by the characteristic differences established between the vascular changes in malignant tumors and chronic inflammatory processes and those observed in benign new formations.

TRANSPLANTABLE ROUND-CELL SARCOMA OF THE DOG.—R. Sticker (*Zeitschr f. Krebsforsch.*, Vol. 4, H. 2).—Sticker studied the way in which the tumor, inoculated under the skin, into the peritoneum, bone, intestine, etc., developed, grew and extended. He never could observe an implication of the surrounding tissue in the tumor formation. The large omentum is a favorite seat of the tumor, and its cells locate where they find an opportunity to attach themselves to small vessels. Certain conditions caused hematogenic and lymphogenic metastatization. Sticker studied the blood and the peritoneal exudate of infected animals and found that the tumor continuously secretes certain substances into the blood. He the tumor continuously secretes certain substances into the blood. He observed spontaneous retrogressive thermic changes in eight out of eighteen cases. The tumor cells were subjected to thermic, chemical and other influences and their histologic behavior studied. It was found that a general immunity is produced against the invasion of tumor cells in cases where spontaneous recovery takes place. The serum of immune animals or of animals afflicted with a tumor, has no agglutinating qualities for a suspension of tumor cells. Nevertheless the serum has a therapeutic effect by influencing the growth of the tumor and can result in a curative effect if the growth of the sarcoma is not too advanced. The author thinks that at this period the body is unable to produce protective substances. Sticker's paper is of value as adding new material to facts already known, and as confirming the trend of opinion about the effect of spontaneous disappearance of a tumor on the susceptibility for tumor formation in the future. The suggestions on antitoxic or other effects of the immune serum are not based on definite observations or experiments. They are unnecessary in view of the interpretation that Ehrlich has given this immunity following spontaneous retrogression of a tumor.

EXPERIMENTAL INVESTIGATIONS ON LEPROA.—Charl. Nicolle (*Ann de l'Inst. Pasteur.*, May, 1906).—The long series of experiments conducted by Nicolle on monkeys (mainly species of macacus) cannot be detailed. The result has been that especially macacus sinicas has a very pro-

nounced susceptibility to lepra infection, when inoculated with leprous products. Successful infection is possible only by subcutaneous inoculation. To arrive at positive results, it is necessary to utilize for infection, material rich in lepra-bacilli and derived from patients that have not been under treatment. The lepra in monkeys, produced experimentally, is peculiar by the fact that the period of incubation is very long, and that the susceptibility of the animals proves to be highly increased by repeating the inoculations with virulent material. Nicolle refutes the theory held by some observers, that the lepra-bacillus is only a race of the tubercle bacillus, by the proof that all of his inoculated monkeys, so highly susceptible to tuberculous infection, never showed any tuberculous lesions. Nicolle's work appears to be the beginning of the end of all doubts that so far were entertained about the specific character of the lepra-bacillus. It has, besides, done much to open a way to study experimentally the course of this infection and its biologic character.

THE PRESENCE OF SYPHILITIC ANTIBODIES IN THE CEREBRO-SPINAL FLUID OF PARALYTICS.—A. Wasserman and F. Plaut (*Deutsch. Med. Woch.*, 1906, No. 44).—The possibility of demonstrating antibodies in the blood serum of persons in the late stages of syphilis, or after recovery, was shown by Wasserman and Citron some time ago. The method used for this purpose was that suggested by the discovery of Bordet and Moreschi of the complement absorption by even the minutest quantities of antigens and antibodies. Numerous investigations in this direction have established the possibilities of obtaining specific reactions in obscure pathologic conditions. Wasserman and Plaut have extended these to 42 cases of paralysis and in 32 of these were able to prove that the cerebro-spinal fluid contained syphilitic antibodies. The great number of precautions necessary to obtain reliable results were carefully observed and many control experiments were made. As to the conclusions to be drawn, the authors give the following conservative statements:

For the present it is only positively established that in the spinal fluid of the majority of cases of paralysis examined, specific luetic antibodies occur, in other words, that these persons previously had acquired syphilis, most likely still have syphilis. It is, however, not justified, to conclude, that the paralysis has a causal relation with this infection; for such a conclusion a much larger material is needed. It is above all necessary to find whether persons previously afflicted with syphilis carry antibodies in their spinal fluid, but do not suffer from paralysis or tabes. The attempts to demonstrate besides the antibodies also antigens in the fluid from paralysis have, with the exception of one case, been negative. There is no doubt but that the work of the authors will be the stimulus for numerous control investigations. The importance of the method, if found to be true and specific, will be felt in many unsolved problems of nervous diseases. The difficulties lie in the obtaining of the material and in the complex way in which by control experiments errors have to be eliminated. If true, this new knowledge will change many ideas on certain pathologic conditions in syphilis and in diseases caused by or secondary to syphilis.

DIAGNOSIS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

AN APPARATUS FOR OBTAINING SMALL QUANTITIES OF BLOOD.—Wieck (*Münch. med. Wochenschr.*, 1906, No. 40).—Everyone who has worked with the Thoma-Zeiss hemocytometer has experienced the difficulty of drawing the blood exactly to the required mark. If the blood is sucked up very slowly and carefully it sometimes clots in the tube; if rapidly, it may be drawn up too far, sometimes even into the bulb. A not inconsiderable amount of expertness is required always to avoid these sources of error. Wieck has devised an instrument for eliminating these difficulties. The hemocytometer pipette is fastened to a little frame, along which runs a small ratchet wheel that clamps the rubber tubing attached to the pipette. As the wheel is slowly turned so as to move the clamp up along the tubing, a vacuum is produced in the pipette, whereby the blood is slowly sucked up to the required mark. Suction obtained in this way can be much more accurately gauged than when produced by the mouth. The apparatus can, of course, also be applied to other pipettes and will doubtless be found useful by those who do not do blood work with sufficient frequency to become expert in the ordinary methods.

THE DIAGNOSTIC VALUE OF THE LOUDNESS OF THE FIRST CARDIAC SOUND.—Kurt (*Wien. klin. Wochenschr.*, 1906, No. 40).—The first cardiac sound is normally heard distinctly louder over the upper portion of the right ventricle, than over the corresponding portion of the left ventricle. If, however, the latter has undergone hypertrophy, even though it be slight, this relation is reversed and the first sound is heard more loudly over the left than over the right side of the heart. When accompanied by an accentuated aortic sound, this symptom suffices for the diagnosis of a hypertrophied left ventricle even when an enlargement cannot distinctly be made out by percussion. Such conditions may be found in well compensated mitral insufficiency, in women who have borne many children, in young people as the result of over-exertion and often in beginning arterio-sclerosis.

THE EARLY DIAGNOSIS OF PRIMARY SYPHILITIC LESIONS.—Danziger (*Berl. klin. Wochenschr.*, 1906, No. 42).—The writer reports five cases in which he demonstrated the presence of the spirochæte pallida and thereby established an early diagnosis although no other clinical signs were present.

THE QUANTITATIVE ESTIMATION OF SUGAR IN THE URINE.—Bendix and Shittenhelm (*Münch. med. Wochenschr.*, 1906, No. 27).—A method of roughly estimating the amount of sugar present in the urine that is too much neglected consists in adding to the urine an equal amount of sodium hydrate solution, boiling and noting the change in color (Moore-Heller test). The writers have utilized this method in their chromosac-

charometer. The standard tube is filled with a brownish fluid whose color is that of urine containing one per cent of sugar and boiled with an equal amount of sodium hydrate solution. The determination is done as follows: Boil the sugar-urine with an equal volume of 10 to 15 per cent sodium hydrate for several minutes, set aside to cool and pour into a graduated test tube up to a prescribed mark. If the color is that of the standard fluid or paler, the urine contains one per cent of sugar or less. If darker, add water until the standard color is reached. The amount of water added will reveal the per cent of sugar present. The principle, it will be seen, is that of Gower's hemoglobinometer. The method should evidently not be applied to high colored urines, but may be found useful in the typical pale urine of diabetes. Whether the degree of accuracy obtained as compared to that of other methods warrants the time and pains required, seems doubtful.

STARCH GRANULES IN URINE.—Rahel Hirsch (*Zeitschr. f. exp. Path. u. Ther.*, 1906, No. 2).—It has usually been assumed that the starch granules occasionally found in the urine are due to accidental contamination, usually from starched underclothing. The writer, however, has found that starch granules may be absorbed from the digestive tract into the circulation unchanged and are then excreted by the kidneys. She succeeded in demonstrating the presence of starch grains not only in the urine, but also in the blood of a dog that had been given 500 g. of potato starch in milk.

PARAVERTEBRAL AND PARASTERNAL PERCUSSION IN PNEUMONIA.—Pollak (*Wien. klin. Wochenschr.*, 1906, No. 40).—A significant sign in pleurisy with effusion is the presence of pulmonary resonance along the spinal column on the affected side for a considerable distance below the level of the fluid elsewhere. Attempts have been made to utilize this observation in the differential diagnosis between this affection and the consolidation due to pneumonia. The writer, however, has found the same condition in pneumonia when localized near the vertebral column and maintains, therefore, that this sign cannot be used for the differentiation of these diseases.

A NEW METHOD OF TESTING KNEE-JERK AND ANKLE CLONUS.—Feix (*Wien. klin. Wochenschr.*, 1906, No. 41).—The two essentials for obtaining a correct notion of the presence or strength of knee-jerk and ankle clonus are muscular relaxation and the diversion of the patient's attention. The writer believes that these conditions can best be fulfilled if the patient is made to lie on his side with eyes closed and knees drawn up, as if asleep. This position will be found especially useful for obtaining these reflexes in bed-patients.

W. Guttman (*Fortschr. d. Med.*, 1906, No. 29) suggests still another method. With the patient seated on a chair, a towel is placed about the thigh and pulled upward so that the thigh hangs suspended in it. Another towel is placed about the calf of the leg and also pulled upwards until the lower leg rests in it. By this means the muscles of the leg are relaxed even in patients in whom such relaxation cannot otherwise

be obtained and the knee-jerk if present can always easily be elicited.

BARBERIO'S REACTION FOR SPERMATIC FLUID.—Levinson (*Berl. klin. Wochenschr.*, 1906, No. 41).—This test consists in the production of typical crystals when picric acid is added to spermatic fluid or to an aqueous solution of the dried sperma deposited on clothing, etc. Its great forensic importance is due to the fact that it seems to be specific for human sperma. The writer finds that the reaction is trustworthy and that it is positive even in cases of azoospermia, when the microscopic examination of the suspected fluid would be negative.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

EXTRACTION FROM ŒSOPHAGUS OF A COIN WHICH HAD REMAINED THERE THREE MONTHS.—Kirmission (*Bull. et. Mem. Soc. de Chir. de Paris*, No. 29, 1906).—The patient was a little boy, three years of age, who had been playing with several coins and swallowed one without any symptoms manifesting themselves immediately. The fact would not have been discovered except that the coin was found to be missing. Little by little, however, swallowing became impaired, at first when the child took solid food and later when liquid was introduced. He grew thinner and thinner and death seemed the inevitable outcome. Our author introduced a hook into the Œsophagus and immediately struck an obstacle, but did not succeed in pulling it out at the first attempt. He was not certain enough of his bearings to warrant the use of force. Then a radiograph was made and at the next attempt he withdrew the coin without the slightest difficulty. There were no after effects, and the patient left the hospital in a few days.

BLOODLESS OPERATIONS UPON THE SKULL DONE UNDER A CONDITION OF INCREASED ATMOSPHERIC PRESSURE.—Sauerbruch (*Deutsch. Gesellschaft fur Chir.*, April, 1906).—This author made himself famous by his operations within the thoracic cavity under conditions directly opposite to the above. However, now he applies his theories to a new field and apparently with every assurance of success. His idea is to prevent hemorrhage from the vessels within the skull by compressing them. He works in an atmosphere compressed to a height of 50 mm. of mercury, and it is interesting to note that such organs as the liver, when exposed to this pressure, will not bleed at all, although cut in any direction. When the column of mercury stands at only 20 or 30 mm., it is possible to work within the skull bloodlessly. There is also no danger of air embolism if the technique be properly carried out. The author does not conclude, as yet, that the method is applicable to the human subject.

THE TECHNIQUE OF OPERATIONS FOR UMBILICAL HERNIA. — Graser (*Deutsch. Gesellschaft fur Chir.*, April, 1906).—This apparently most dif-

ficult and one might add, dangerous procedure, has at least the charm of being apparently effective, hence it is reviewed in its main details. The idea is to suture up the abdominal wall in the following way after the contents of the sac have been taken care of. A transverse slit is made from the edges of the opening through the anterior sheath of the rectus muscle. This is next drawn to the middle line, being turned out of its sheath on either side, and the median edges sewed together. After this has been accomplished, a vertical approximation or overlapping, if possible, of the anterior sheath is performed. It would seem to the reviewer that such an extensive plastic operation might form a rather serious finale to the usual difficulties encountered in an old, large umbilical hernia. The much less complicated and thoroughly effective Mayo operation seems to fulfill all requirements.

THE RADICAL CURE OF FEMORAL HERNIA.—Coley (*Annals of Surgery*, October, 1906).—An article from Coley on hernia is necessarily of more than usual interest since he has done more operative work in this line than any living man. Not only this, but his success is fully equal to that of any other surgeon, to say the least. He has done 117 femoral operations in the last fifteen years, and just fourteen times as many for inguinal hernia. Of the former, 103 were done by the purse-string suture method, which for simplicity and effectiveness is the equal, if not the peer, of any other method, in our author's opinion. The idea is, after the sac has been exposed and the fat removed from around it, to pull it down well, ligate it above the neck and push it back into the abdomen. Then a suture of kangaroo tendon is placed as follows: Through the inner portion of Poupart's ligament, through the pectoneal fascia and muscle, the fascia lata and then again through Poupart's ligament, a short distance outwardly from the first. On tying this suture, the canal is completely obliterated and after the fat and skin have been closed, the operation is complete. In 100 cases operated upon after this manner not a single recurrence was noted.

APPENDICITIS IN BABIES.—Kirmission and Guimbellot (*Revue de Chir.*, No. 10, 1906).—An observation of this sort in a child of eleven months led the authors to look up the literature of the subject and report twenty-six cases. Nine were in the first year of life, seventeen in the second and of the whole number, nineteen died. The authors consider that this disease is not nearly so rare at this time of life as has been supposed. It develops rapidly and the outlook is exceedingly grave. The only cures which have been reported are those in which an operation has been done in the acute stage and that without the waste of any time. The usual reason for not operating promptly is that it is most exceedingly difficult to make a positive diagnosis.

IMPORTANCE OF EARLY RECOGNITION AND OPERATIVE TREATMENT OF MALIGNANT TUMORS.—Bloodgood (*Jour. Am. Med. Ass'n*, Nov. 3, 1906).—Experience has shown that patients from whom carcinoma and sarcoma have been removed have remained well sufficiently long to show that cures have been effected. In the onset neoplasms are local diseases and if removed at this stage cures are accomplished. Permanent cures are record-

ed after the complete removal of the primary disease and the metastatic areas. Sarcoma disseminates later than carcinoma and generally through the blood vessels. In this instance the prognosis is hopeless. It is a question whether cures are accomplished in the class of sarcoma which give rise to metastatic tumors in the neighboring lymphglands. In regard to diagnosis, all tumors should be considered malignant until all means have been exhausted to demonstrate that they are innocent. The life of a malignant tumor before operating may be divided into three stages. 1st. The time during which the growth of the tumor does not attract the attention of its host. 2nd. The time which elapses before the physician is consulted regarding the growth. 3rd. The time the physician consumes in making the diagnosis. Nothing can be done to shorten the first stage; as to the second, the public must be educated to the fact that cancer is curable and that cures are in direct proportion to the promptness with which they are treated. This should be done in a similar manner to that in which the public is being educated concerning tuberculosis and its curability in the early stages. If the public can be instructed that the earlier treatment of all tumors is the most important and less mutilating, the percentage of cures will be greatly increased. To shorten the third period the general profession must be impressed from accurate and conscientious statistical studies in surgical clinics that the truth of the statements made in this paper is unquestionable. The future progress in surgery is in the hands of the general practitioner and the surgeon should not appeal to the public over his head. He sees the patient first and he should educate the people because of his closer contact with them. The earlier the clinical diagnosis the better the prognosis. The general practitioner and surgeon must work together in their efforts to improve the results of surgery. The clinical aspects of pathology must be well understood by the surgeon in order that he may work with the pathologist whose more expert knowledge of the cellular element of the picture makes his aid necessary. Frequently an exploratory incision is necessary to make an early diagnosis. If clinical diagnosis cannot be made on incision, a frozen section may be examined in five to ten minutes and clear up the diagnosis. Bloodgood asserts that surgical technic is in advance of surgical diagnosis and pleads for the better development of the latter. It is the surgeon's duty to meet the requirements of diagnosis when a patient is referred to him by the general practitioner. Bloodgood thinks exploratory incisions are to be commended, though he finds frequent statements in literature that exploratory incisions are dangerous procedures; in his own experience he has had no trouble from metastasis as the exploratory incision is followed immediately by complete operation. Bloodgood classifies the various kinds of malignant tumors and discusses their treatment and diagnosis at length. In all he advocates early and radical operation.

CYSTS OF THE LONG BONES.—Lexer (*Deutsch. Gesellschaft für Chir.*, April, 1906).—The author adds another to his already well known investigations on diseases of the bones. The patient was a 14-year-old boy in whom a tumor became apparent within the upper portion of the shaft of the humerus. At the operation the shell of bone was found exceedingly thin, the inner surface of the cavity smooth, and after sub-periosteal

resection, the defect was filled out with a section from the fibula of a leg which had just been amputated. The healing was perfect, and the functional result all that could have been desired. The origin of the tumor was ascertained only after cartilage was found in the wall of the cyst. It was then certain that the tumor was originally an enchondroma which had degenerated.

CONTINUED SLEEP AFTER A FALL UPON THE BACK OF THE HEAD.—Roettger (*Deutsch. Gesellschaft für Chir.*, April, 1906).—This patient had lain dormant for a year and a half with the eyes closed and without speaking a word and without his condition changing in the least. The truth of the above statement was established by the most careful watching. The patient has asked for nothing to eat since the accident, and the author is certain that he is not simulating. There are no localizing symptoms, hence the case is regarded as one of a severe hysterical stupor.

TRANSPLANTATION OF THYROID TISSUE INTO THE SPLEEN.—Payr (*Archiv. für Klin. Chir.*, Band 80, Heft 3).—After noting the frequency with which thyroid tissue is deposited in bone marrow in the processes of disease, our author tried the transplantation of it into the same situation, but without much success. Then he reflected how the spleen and thyroid are both ductless glands, the latter having an exceedingly rich blood supply, and concluded that the spleen might prove a suitable soil for such transplantation. His technique is first to expose the spleen and then take one thyroid lobe, split it, invert the resulting halves and implant them with the raw surface outward. He did this on forty-eight animals, mostly dogs and cats. Many of these lived three or four months, one of them for almost a year. In this way he was able to prevent, in many cases, the symptoms which usually accompany removal of the thyroid gland, and to further prove that its presence in the spleen led to this result, he removed such spleens secondarily and was rewarded by the expected symptoms. In this manner he believes that he has proven the value of his proposition. He gives at great length the results of his anatomical studies on spleens, into which thyroid has been transplanted, and proves conclusively that thyroid tissue in this new bed, although it shrinks in size usually, does not disappear. He found new communications between the blood vessels of these two different tissues, and traced colloid in the vessels, as well as the lymphatics of the spleen. He did this operation on one patient, a cretin; at the end of six weeks the child was markedly improved and six months after the operation she was so changed for the better that she was scarcely recognizable.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

THE JOINT AFFECTIONS OF HEMOPHILIA.—Sheldon (*Med. Record*, Oct. 27, 1906).—Acute affections of the bones and joints in children are

so important and are so serious when not properly treated, or when treatment is delayed, that it is well to bear in mind even the exceedingly rare conditions, because of their significance when present. Hemophilia and its joint manifestations have been studied for years, but the rarity of these affections has made the truth slow in coming to light. The author reviews the principal writings on this subject, and states that the importance of diagnosing these conditions cannot be overestimated. The history is most important. In a primary attack, a leucocyte count may aid in excluding infection, but aspiration of the joint, followed by examination of the withdrawn fluid, should be resorted to in doubtful cases. In diagnosing old cases, the history of previous attacks is most important. The treatment of the cases is very difficult. Aspiration should be done with an exceedingly small needle. Withdrawing the fluid doubtless assists in preventing the occurrence of permanent joint changes. Nothing can be done for old cases. Koenig opened two of these joints by mistake. One was also opened at Omaha, and another at Gottingen. All of these patients died from bleeding from the operative wound. The author reports three cases. One, a girl of six years of age, received a slight injury to her knee, which became markedly swollen, and showed evidences of fluid in the joint cavity. Aspiration was done, and three and a half drams of blood removed. She entirely recovered, but had subsequent attacks. The second case was a new-born infant; the first hemorrhage seen in the ankle-joint. Other hemorrhages quickly followed from mucous membranes, and the child died on the ninth day. The third case was a boy twelve years of age, with history of being a bleeder. After slight injury developed a condition similar to acute arthritis of left knee. This subsided, but six months after a second involvement of the knee, the boy suddenly died from hemorrhage of the bowels.

THE SURGERY OF THE AFFECTIONS FOLLOWING NERVOUS DISEASES, RESULTING IN PARALYSIS, SPASTIC AND FLACCID.—Redard (*Med. et Chir. Infan.*, July 1, 1906).—The author gives a complete summary of the various methods of tendon transplantation, nerve transplantation, the indications for tenotomy, operations upon the bones to correct deformities, arthrodeses to fix joints, and the proper place and use of apparatus. He concludes that operation is contra-indicated in young children, where the tissues are not strong, and where the general physical resistance is lowered. The best results are often obtained from a combination of various operative procedures, such as tendon transplantation with arthrodesis. Simple cases where the general conditions are favorable frequently result in complete cures, almost always in rapid amelioration of the difficulty in walking, and the general condition is much enhanced. Also in serious cases, even where there are cerebral complications, surgical treatment often is followed by remarkably favorable results. Orthopedic treatment as such, i. e., massage, immobilization, re-education of muscles, apparatus, etc., should be used to complete the favorable results obtained by surgery.

POTT'S DISEASE; FORCIBLE AND OPERATIVE CORRECTION.—Gormon (*Rev. d'Ortho.*, Nov., 1906).—The author reports a case on which forcible

ble correction was done in 1896, when the child was seven years of age. There was every evidence of Pott's disease at that time. After the operation the case was treated continuously for three years by the surgeon who did the operation. Present condition: Kyphos extending from third dorsal to first lumbar vertebræ. Both legs flexed, both feet held in equinus position. Symptoms indicating complete relapse.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

URINARY INCONTINENCE.—Peterson (*Jour. A. M. A.*, Nov. 3, 1906).—Incontinence in woman is usually due to vesico-vaginal fistula. The ordinary varieties of such fistulæ are easily cured by plastic surgery if modern methods be employed. Even large fistulæ, involving a considerable portion of the vesico-vaginal septum and surrounded by dense scar tissue, can be successfully closed by loosening the attachment of the bladder, separating this viscus from the vaginal wall and closing the rent in the bladder wall by a separate suture. But there will always remain cases where the neck of the bladder and portions of the urethra have been so destroyed as to preclude the restoration of the urinary sphincter muscle so that continence will be established. Under such circumstances the following procedures may be considered: Construction by plastic operation of a urethra which will serve as a channel for the urine, and utilization of the rectal sphincter by diverting the urinary stream into the rectum, either directly by an anastomosis between the bladder and the rectum, or indirectly through the formation of a recto-vaginal fistula with a subsequent closure of the introitus vaginæ. The author reports a case in which the last named procedure was attended with an excellent result. As regards infection, the urinary stream from the ureter or bladder can be safely diverted into the intestine for the purpose of utilizing the anal sphincter, if the ureteral orifices remain intact. On the other hand, pyelonephritis in varying degrees of intensity always follows the anastomosis of a severed ureter with the intestine. Any slight amount of fecal matter finding its way into the vagina will be washed back into the rectum by the constantly flowing urine. There is no danger to be feared on this score, provided the fistulous opening is not too large. Should contraction of the fistulous opening occur, the apertures can be easily dilated from time to time under an anesthetic, a procedure far preferable to enduring the discomfort of incontinence.

Experimental work of clinical cases has shown that the rectum tolerates the presence of the urine and acts as a good substitute for the urinary bladder. The patient has good control of the anal sphincter, the urine being passed only once in about two or three hours, and only once at night. No irritation of the rectum seems to result.

EXPLOSIVE RUPTURE OF THE TESTICLE FROM TRAUMA.—Cotton (*Am. Jour. of Urol.*, Nov., 1906).—The patient in which this condition occurred, as reported by the author, had previously been in good health, but had a left varicocele and an inguinal hernia. He was struck in the scrotum by a batted ball. There was a moderate amount of shock and pain, which subsided in a short time. When seen, five hours after the accident, there was a large steadily increasing tumor of the scrotum on the left side, of a purple black color, tense, but only moderately tender. The discoloration extended for an inch on the inner side of the penis, and there was swelling and discoloration in the left groin. During the few minutes of examination and preparation there was a definite increase in the tumor. Nothing could be palpated in the mass. At operation the cellular tissue was found infiltrated, the tunica vaginalis torn, and in the cavity of the tunica were 46 ounces of clots. On removal of the latter, shreds of testicular tissue followed. The spermatic artery was torn. There was also arterial bleeding over what had been the base of the epididymis. The epididymis showed but little damage, the cord was undamaged save for rupture of some of the varicose veins. The right side of the scrotum was intact, save that it contained some blood, evidently forced over from the left side under pressure. An uneventful recovery ensued.

TREATMENT OF TUBERCULOSIS OF THE URINARY TRACT IN WOMEN.—Garceau (*Jour. A. M. A.*, Nov. 3, 1906).—The subject may be divided into three heads, hygiene and climatic, local treatment and surgery. Early cases are sometimes best treated by change of climate; the principal objects to be attained are avoidance of a new infection and putting the patient in the best possible physical state so as to develop her reparative power. In order to accomplish this end the following rules are imperative: Permanent exposure to fresh air, free access to light, well-regulated rest, careful exercise, abundant nourishment, absolute obedience to the rules of hygiene and constant medical supervision. If a patient has means and time, this is the best treatment to begin with. Cures have been recorded. Patients who are suffering great pain demand immediate relief. A purely hygienic course of treatment is also recommended in those cases of very advanced urinary tuberculosis in which the whole urinary tract has been invaded and both kidneys are diseased. In the first stage of vesical tuberculosis in which the urinary tubercles have not yet appeared and the only abnormality seen with the cystoscope are collections of bright red patches in which the tubercles are later to appear, topical treatment does not do any good. On the contrary, injections of various kinds, and local applications, are intolerably painful, and can do no good, for the reason that they do not reach the site of the trouble, the germs being embedded in the tissue of the bladder, and beyond the reach of antiseptics. Large amounts of water and milk should be taken, and urotropin may be tried. In these stages of the disease, a climatic change will do the greatest amount of good. Avoidance of all kinds of work is insisted upon, rest in the recumbent position, sleeping out of doors, regulated diet are advised; and in every other way the patient should try to lead as careful a life as possible. In the second stage, that of tubercle formation with attendant caseation and ulcer formation,

a vast amount of good can be accomplished by intelligent treatment. Corrosive sublimate and nitrate of silver are strong antiseptics and have a positive curative action on both the tubercle and the ulcer. Used in conjunction, they sometimes eradicate the disease from an apparently incurable bladder. The treatment by the use of corrosive sublimate which was first advocated by Guyon, consists of instillations of the drug every day, or, if not daily, as often as the patient can support them. A solution of 1 to 5,000 is first tried, 30 or 40 drops being instilled into the bladder very slowly. If greater amounts are injected, severe pain will be produced. As toleration of the drug is attained, the strength is increased until a solution 1 to 500 is used. It is not well to use stronger solutions. If the pain is great a solution of cocaine, or eucaine, may be injected into the bladder before the sublimate is used. Hygienic rules as to mode of life should be used, rest especially being insisted upon. Morphine should be avoided, if possible. The treatment has to be kept up for months before any decided improvement is noticed. At the same time, with the Guyon treatment, the tuberculous ulcers will have to be treated with nitrate of silver. This is best done by applying the silver to the diseased surface under cocaine anesthesia. The author reports five cases treated by this method, in which two cures were effected, the other three being much relieved. Should the Guyon treatment fail on account of the suffering it may entail, it is not well to delay in giving the relief which a cystotomy will afford.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF

HUGO EHRENFEST, M. D.

PASSAGE OF THE ANTHRAX BACILLUS FROM MOTHER TO FETUS.—Santi Sirena (*Arch. p. le Sc. Med. Rev. Am. Jour. of Obst.*, Sept., 1906).—The bacillus of anthrax in pregnant rabbits has been observed to pass into the amniotic fluid and into the fetus itself. Alterations are produced in the chorion and in the uterus itself, and consist in hyperemia, a dilatation of the vessels, extravasation of blood and infiltration. The placenta contains a large number of bacilli within the veins of the serotina and in the intervillous spaces. It has been shown that the bacilli pass from the mother to the fetus by way of the placental vessels.

TRANSMISSION OF MATERNAL DISEASES TO ONLY ONE OF THE FETI IN CASES OF TWIN-PREGNANCY.—Bertino (*Rassegna d' ost. gin. rev. Zentralbl. f. Gyn.*, No. 39, 1906).—In cases of bi-ovular twin-pregnancy a disease of the mother may be transmitted to but one fetus, or may affect both feti to a very different degree. Reports of such observations are comparatively rare. The writer found six reports of this peculiar form of intrauterine infection in cases of variola. In one instance one of the feti exhibited the unmistakable symptoms of the disease, while the mother herself had escaped the infection. Similar observations have been made in cases of maternal syphilis. A new case of this sort is described by the

writer. Both twins when born apparently were healthy. After a few weeks one of them developed the characteristic symptoms of hereditary lues, viz.: Mucous patches, coryza, erythema, etc. The other child remained healthy up to his third year. Since the mother had syphilis, it seems justifiable to assume that the one fetus had his infection acquired before birth. If the other child later in life should develop symptoms of a hereditary syphilis—which is possible—then certainly the difference in the infection of both feti is remarkable. An explanation for this phenomenon could be found in a different permeability of the two placentas for the syphilitic virus, or in a difference of immunity of the two feti against the infection.

FEVER, SEPSIS AND INFECTIOUS DISEASES APPEARING DURING MENSTRUATION.—Riebold (*Deutsche Med. Wochenschr.*, No. 29, 1906).—In the writer's opinion menstruation plays an important role in the etiology of various febrile diseases. The menstruating uterus seems to present a suitable ground for the growth of pathogenic germs which then enter the system and lead to septic processes. Bacterial toxins, or the products of decomposition resorbed from the uterus, may cause an elevation of temperature which is not by any means uncommon during menstruation. Infections and intoxications originating from the menstruating uterus may cause different forms of rheumatic affections. In the opinion of the writer such affections may be the unrecognized cause of secondary valvular lesions of the heart. In these cases of rheumatic affections the symptoms disappear with the cessation of menstruation and recurrence of the symptoms with every menstruation can be effectively prevented by a regular douching of the vagina twice a day with an antiseptic fluid during menstruation. The most effective measure in the prevention of these infections is scrupulous cleanliness of the external genitalia during menstruation.

CONTRAINDICATIONS AGAINST BREAST FEEDING.—Bouquet (*Bull. gen. de ther. rev. Zentralbl. f. Gyn.*, No. 35, 1906).—According to the experience of the author every mother who suffers from a cardiac lesion, even if it is completely compensated, should be prohibited from nursing her baby. The same is true for mothers who have an albuminuria caused by nephritis. One of the most important contra-indications is tuberculosis. The resistance of the nursing mother is reduced and the child is in danger of receiving with the milk either tubercle bacilli, or at least tubercular toxins. Breast feeding must be stopped in cases of acute infectious diseases of the mother, such as typhus, erysipelas or measles. The necessity of a discontinuation is obvious in cases of lymphangitis, abscess formation or malignant tumors in the breast. It is more difficult to decide on the advisability of breast feeding in cases of chronic intoxications. Alcoholic mothers seem to transmit through the milk substances which become responsible for disturbances of the intestinal tract or the nervous system. This deleterious effect upon the nursing child is more pronounced in chronic trade poisoning, e. g., with mercury, lead or arsenic. In another group of cases nursing must be discontinued on account of persistent anomalies in the chemical constitution of the milk.

BILATERAL METASTATIC CARCINOMATA OF THE OVARIES.—Stickel (*Arch. fuer Gynaekologie*, Bd. 79, H. 3).—Out of a total of 13 cases of this sort the primary tumor was located in the stomach nine times, in the ascending colon one, and in the breasts three times. In all cases of carcinoma of the breast, stomach, gallbladder or intestines, the ovaries must be palpated carefully before a radical operation is decided upon. Metastases in the ovaries may be detected before enlarged lymphglands in the abdomen can be palpated, and even while the abdominal cavity otherwise is still free from metastases.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

DIABETES MELLITUS IN CHILDHOOD.—Brand (*Inaug. Diss., Der Kinderarzt*, Aug., 1906) reviews the cases, 45 in number, that have been reported in the literature since 1899, and then adds a study of 10 cases from Heubner's clinic in Berlin. Finally there is added the history of a rapidly fatal case, in a girl of $2\frac{1}{2}$ years, following a severe burn. In these 56 cases, there was a definite history of heredity in 18 per cent. Of these 56 cases, 46 were fatal (83 per cent). The author believes as the result of his study of two cases followed in the polyclinic, that improvement lasting for long periods of time is possible in some cases, perhaps even definite cures. This would agree with Naunyn's view that there is an intermittent form of diabetes in childhood. In the two cases mentioned, there was absence of sugar in the urine for more than a year. Eighteen of the cases occurred in children under one year of age, the youngest child being only three months old. In infants, however, great care is necessary in diagnosis, because recent researches have shown that in certain disturbances of nutrition, reducing substances of various kinds may appear in the urine. These substances are not grape sugar but milk sugar or galactose. These forms of glycosuria are purely alimentary, and are found in certain forms of gastro-intestinal disease. It is therefore necessary to determine that the sugar excreted is actually grape sugar before the diagnosis of diabetes may be made.

With reference to the diabetic coma, an important point in addition to the clinical picture is the presence of so-called coma casts; thick, short, partly hyaline, partly granular, casts which may cover the whole microscopic field. In the author's experience coma was appallingly rapid in its fatal course, though its onset is often delayed for considerable periods. Cases lasting longer than three years in childhood are extremely rare. Acute infectious diseases occurring in the course of a diabetes are very apt to produce diabetic coma.

With reference to therapy, the best results were obtained in Heubner's clinic through the use of buttermilk and oatmeal.

THE RELATION OF WEIGHT TO THE MEASUREMENTS OF CHILDREN DURING THE FIRST YEAR.—Fleischner (*Arch. of Ped.*, Oct., 1906) carefully

weighed and measured 500 children, all under a year old, with the idea of determining what relation, if any, exists between the weight and measurements of abnormal children as compared with normal babies. Five per cent of the children were well nourished, 35 per cent fairly well nourished, and 40 per cent poorly nourished. His conclusions are summarized as follows:

(1) The height and circumference of head, chest and abdomen in normal, well nourished children increase as the weight, the greatest increase in the measurements occurring during the first quarter of the year, when the greatest gain in the weight takes place; the next greatest increase in the measurements occurs, coincident with the gain in the weight, during the second quarter of the year, while the least increase in the measurements takes place in that part of the year when the gain in the weight is least, the third quarter of the year.

(2) The height, and the circumference of the head and chest in fairly well nourished children likewise increase primarily as the weight, although, in this class of patients, age plays more of a part than in the well nourished. The greatest increase in measurements occurs in the first quarter of the year, with a similar gain in the weight. The increase in the height, and circumference of the head is slightly greater in the third quarter than in the second quarter, although the gain in weight during these periods is the same, showing the slight bearing that age, irrespective of weight, has on the growth of the body, while the smallest gain in the weight and the growth is in the last quarter of the year.

(3) It is in the poorly nourished children that age plays its most important part, and the measurements of these children, compared with the well nourished, increase most rapidly in the last part of the year.

(4) In the poorly nourished children, most of whom are probably somewhat premature, when the weight is below normal, all the measurements are correspondingly below normal. The height and circumference of the head reach the normal birth measurements a little ahead of the weight, while the chest and abdomen are two months later in reaching the measurements of a normal child at birth.

(5) When the weight is stationary the increase in the measurements is very small, depending upon the slight influence which age has upon the growth of the infant, notwithstanding the weight.

(6) The measurements of infants of the same weight, notwithstanding the age, are very similar, the small difference depending, as when the weight of a child is stationary, upon the very slight influence of age upon growth.

(7) The final conclusion can be drawn that during the first year of life the primary factor in the increase of the measurements of the body is steady, consistent increase in the weight, the influence of age being secondary and much less important.

THE BACTERIOLOGY OF INFANTILE DYSENTERY.—Auche and Campana (*Arch. de Med. des Enf.*, Sept. and Oct., 1906) after a careful experimental and clinical study, reach the following conclusions: Dysentery, in children as in adults, is caused by several types of the dysentery bacillus, the type of Chantemesse-Widal-Shiga, the type of Flexner, and the type of Strong. The clinical characters of these various forms of

dysentery differ very little, and are not sufficiently well marked to allow us to establish clinical types to correspond to the bacteriological ones. For the present, the only means of determining the nature of a dysentery are these: The finding of the bacilli in the stools, and their identification, and the proof, much less sure, but much more easy to carry out, by means of agglutination.

TUBERCULOUS CAVITIES IN THE NURSING.—Lhomme (*These de Paris*, 1906; *Rev. Mens. des Niol de l'Enf*) says that tuberculous cavities are very rare before the age of three months. They are most often unilateral and situated on the right side. They are more common at the base or in the middle lobe, than at the apex. Three types occur: (1) Resulting from caseous pneumonia. (2) Suppuration of a group of bronchopneumonic lesions. (3) Extension of chronic tubercular lesions more or less surrounded by sclerotic tissue.

Sometimes they are single and of large dimensions; more often they are small but numerous.

The physical signs are often wanting. At times the physical signs of cavity are present without the existence of such cavity. The symptoms are also frequently lacking; the only one of distinct value is hemoptysis.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

THE THEORY OF LUES NERVOSA.—Hubner (*Berl. Llin. Woch.*, 45, 1906).—This paper contains an interesting discussion of the two opposing theories of the effort to explain the close relation existing between lues on the one hand and tabes and paresis on the other. On one side is the assumption that there must exist besides the syphilis certain other causes which produce the affections which we know as nerve syphilis, and the other hold that there exists a peculiar sort of syphilitic affection which has a predilection for the nervous system. This infection is called lues nervosa. The standpoint of this paper is that it is at present unnecessary to assume a special form of syphilitic infection which shows a tendency to attack the nervous system. Two cases are quoted in the first instance which showed, post mortem, that syphilis of the internal organs could exist at the same time with outspoken diseased condition of the nervous system, both being essentially syphilitic. From a clinical point of view the author comes to the same conclusion and as a final declaration he says that at present there is no need to assume that there is a special lues nervosa type of infection.

THE PAIN REACTION OF THE PUPILS AS DIFFERENTIAL DIAGNOSTIC POINT BETWEEN ORGANIC AND PSYCHOGENIC AREAS OF SENSITIVENESS.—Lowy (*Neurologisches Centralblatt*, 20, 1906).—As a result of a long period of observation, the author believes that he has established the following important differential diagnostic principle. If pressure is applied

to painful areas due to organic causes the pupils in a strong light will show a widening from their previous small diameter. This same phenomenon does not result if the painful points are due to psychogenic causes. The author thinks that this is a very valuable point and he calls particular attention to the possibility of its being used in appendicitis, for example, when the pain over the appendical region might be due to psychogenic causes.

THE CEREBRAL ELEMENT IN THE REFLEXES AND ITS RELATION TO THE SPINAL ELEMENT.—Walton Paul (*Journal Nerv. Ment. Dis.*, Nov., 1906).—The purpose of this paper, based upon considerable clinical study, is to offer proof that the brain has an active part in the regulation of the reflexes. The conclusions are as follows: The deep reflexes are resultant of the activity of cerebral and spinal arcs, the longer arcs tending to produce a deliberate and moderate reflex, the shorter arcs an active and violent reflex. The deep reflex varies in healthy individuals and in the neuropsychoses according to the predominant influence of the longer or shorter arcs. In disease of organic origin the partial withdrawal of the higher influence causes the spinal type of deep reflex, but the complete withdrawal of the higher influence causes abolition of the deep reflexes, since the spinal alone is incapable in man of sustaining the burden. Upon re-establishment of the higher influence the reflexes return, the spinal type predominating if the re-establishment is partial, the normal type if it is complete. Initial lessening or loss of deep reflexes in the paralyzed parts is the rule in apoplexies. The condition persists for a period varying from half an hour to a number of days, after which these reflexes become normal or assume the spinal or 'exaggerated' type, according as the return of cerebral influence has been complete or partial. In the exceptional cases of apoplexy with initial exaggeration of deep reflexes, the withdrawal of cerebral influence has been from the first incomplete. The superficial reflexes, like the deep, have a cerebral control and disappear on the withdrawal of that control. The fact that they do not become exaggerated in disease of the pyramidal tract shows that they have little if any spinal representation. The control of the Babinski reflex more nearly approximates that of the deep than that of the superficial reflexes.

MYATONIA CONGENITA.—Rosenberg (*Deutsch Zeitschrift f. Nervenheilkunde*, 31, Vol. 1-2).—Since Oppenheim first described this affection in the latest edition of his text book, there has been a great deal of interest aroused by it among neurologists and pediatricians. The most characteristic symptom is a hypotonia or atonia of the muscles with a complete failure, or a marked weakness of the tendon reflexes. The case here described is a typical one from Oppenheim's clinic. The case was that of a typical paraplegia, flaccid in type. The child made a good recovery under the use of the faradic current. There is contained in the article a complete analysis of the recorded cases up to date, so that the paper is a valuable contribution from the point of view of bibliography. The pathology of this disease is to be found probably in a congenitally delayed development of the muscular system. The recorded case of Spiller which contains the post-mortem report of a case, seems to support this view, which is upheld likewise by Oppenheim.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

RELATIONS OF THE SUPERIOR AND INFERIOR RECTI MUSCLES TO CONVERGENT SQUINT.—Jackson (*Read in the Ophthalmic Section, Am. Med. Assn.*, June, 1906).—As the eye is turned inward the power of the primary adductor, the internus, diminishes. But the superior and inferior recti, attached in front of the centre of rotation of the eyeball, have their insertions carried inward so that they gain more and more power to turn the eye in or hold it in convergence. This makes these muscles, or rather their nasal portions, of great importance in convergent strabismus. A case reported illustrated the permanence of results obtained by extended tenotomy. The primary adductor and abductor, the internus and externus, tend to equilibrium with the eye directed forward. The secondary adductors, the superior and inferior recti and the secondary abductors and obliques, tend to turn the eye ever more strongly in or out. A rational operation to correct excessive convergence must tend to lessen the relative influence of the secondary adductors.

BACTERIOLOGICAL EXAMINATIONS OF THE CONJUNCTIVAL SAC IN TYPHOID FEVER AND PNEUMONIA.—Randolph (*Bull. of the Johns Hopkins Hospital*, October, 1906).—The wide distribution of the typhoid bacillus throughout the body suggests the possibility of the occasional appearance of this bacillus in the conjunctival sac, especially as conjunctivitis is a recognized complication of typhoid fever. Although rare in contrast to otitis media, conjunctivitis is not an uncommon complication of acute pneumonia.

Of 100 cases of typhoid, *M. albus* was found alone 59 times; associated with other organisms 23 times. In 8 cases *M. aureus* was found alone, while in 13 it was found associated with other bacteria. Other bacteria encountered were the *Streptococcus pyogenes*, the *Morax-Axenfeld diplobacillus*, the *Xerosis bacillus*, *B. pyocyaneus* and *B. subtilis*. Out of the 100 cases the conjunctival sac contained bacteria in 96. The typhoid bacillus was absent throughout.

In the 48 cases of lobar pneumonia *M. albus* was found alone or associated in 38 cases. *M. aureus* occurred 10 times, once alone and 9 times associated with *M. albus*. The *Pneumococcus*, *B. subtilis*, *Morax-Axenfeld diplobacillus*, the *Xerosis bacillus* were the other organisms encountered. Out of the 48 cases the conjunctival sac contained bacteria in 45.

Conclusions. The bacterial flora of the conjunctival sac during typhoid fever and pneumonia shows practically no difference from the conjunctival flora of individuals who are in perfect health.

AUTOINTOXICATION IN RELATION TO THE EYE.—de Schweinitz (*Read in the Ophthalmic Section, Am. Med. Assn.*, June, 1906).—The writer

considered the toxins produced by intestinal decomposition, their relationship to certain diseases of the cornea, sclera and uvea; the possible relationship to amblyopia and retrobulbar neuritis, acute and chronic. He believes that toxins may be accessory causes and the means by which the symptoms are continued even when the well-known exciting cause has ceased to be operative. He alluded to the researches of Dr. Edsall and his own in regard to the relationship of enterogenous decomposition-products to the development and continuance of so-called toxic amblyopia when this is produced by tobacco and alcohol. The probable relationship of auto-intoxication to certain post-operative phenomena, notably post-operative delirium, irido-cyclitis, and glaucoma, was discussed.

THE VALUE OF MIOTICS IN THE TREATMENT OF CHRONIC SIMPLE GLAUCOMA.—Posey (*Read in the Ophthalmic Section, Am. Med. Assn., June, 1906*).—The writer made a strong plea for the continuous and intelligent use of miotics in the treatment of chronic glaucoma and referred to their great value in this class of cases, notwithstanding the generally accepted view of their comparative uselessness. He spoke of the desirability of their continuance in the early stages, even when the diagnosis of glaucoma had been confirmed. He reported a case showing remarkable preservation of vision in an eye the seat of advanced glaucoma, by continuous use of miotics over a period of twelve years. The power of eserine and pilocarpine in chronic glaucoma to preserve the unoperated eye from glaucomatous attacks after iridectomy on its fellow was discussed and the necessity for maintaining the pupils in a state of almost maximum contraction insisted upon. He considered the proper dosage and the best manner of administering both eserine and pilocarpine and the choice between them in various types of cases.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

THE RESULTS OBTAINED FROM THE RADICAL OPERATION FOR CHRONIC PURULENT OTITIS MEDIA.—Dench (*Laryngoscope, Oct., 1906*).—Dench says the results obtained by the operation in question may be considered under the following heads: First, the efficiency of the operation in protecting the patient against intracranial suppuration; second, efficiency of the operation in causing a permanent cessation of the otorrhea; third, the immediate and remote effect of the operation upon the function of the organ, and, fourth, the effect upon the integrity of the facial nerve. In a series of 193 cases operated upon, in no case was there any evidence of an intracranial lesion after the suppuration had been relieved. This seems to prove conclusively that the radical operation does protect the patient from the dangerous sequelæ of middle ear suppuration.

Concerning the permanent relief of the otorrhea the results obtained are, perhaps, not so flattering as we had hoped they would be when the

procedure was first suggested. Out of 193 cases there were 131 cures, 29 with slight discharge, 5 with profuse discharge, 2 still under treatment, 6 fatal cases, and 20 cases in which the result was unknown. Leaving out the 20 cases in which the result was unknown, we have 173 cases of which 131 were cured, or a little over 75 per cent. In a later series of 95 cases the cures amounted to exactly 80 per cent.

In those cases operated upon several years ago and followed carefully, the results have been most satisfactory, the discharge in almost every instance having disappeared entirely. In a few cases where the cure had been considered perfect the patients would return at intervals of from three or four months to one or two years, with a discharge from the external meatus; examination would show the entire cavity filled with a mass of desquamated epithelium which, upon being removed, would leave the cavity with a very unhealthy appearance; if, however, the cavity were sterilized with an alcoholic solution of bichloride of mercury and then dusted with boric acid, or some other bland powder, it immediately became dry. These attacks of desquamation should not be looked upon as a recurrence of the otitis as they are readily relieved by the removal of the epithelial detritus and sterilization of the walls of the cavity.

Out of 111 cases in which the hearing records were kept, the hearing after the operation was good in 99 (whispered voice could be heard anywhere from 5 to 15 feet), was fair in 9 (whispered voice heard from 3 to 6 feet), was bad in 3 (worse than before the operation).

If the operator is cautious in his manipulations and is careful neither to dislodge the stapes nor to impact it into the oval window, he can promise the patient almost certainly that the hearing will not be interfered with. In a number of cases under observation, operated upon several years ago, the hearing steadily improved, owing probably to a gradual mobilization of the stapes by sound waves. In those cases, therefore, where no labyrinthine lesion exists, and where there is a moderate impairment of hearing prior to the operation, the hearing is more apt to be improved than impaired by the surgical procedure.

Out of the last 95 cases operated upon by Dench, facial paralysis occurred in four cases, and in every case the function of the facial was restored. In the previous series of 193 cases the proportion was about the same. When the facial paralysis comes on two or three days after the operation the function is usually restored in two or three weeks, but in those cases where the paralysis comes on immediately after the operation the period of recovery is much greater—from six to eight months, or even longer.

Where facial paralysis does occur it is best treated by daily applications of either the galvanic or faradic current, the galvanism being used where the muscles do not react to the faradic current. In addition to the use of electricity the administration of strychnia internally seems to hasten the restoration of function.

THE RADICAL MASTOID OPERATION MODIFIED TO ALLOW THE PRESERVATION OF NORMAL HEARING.—Bryant (*N. Y. Med. Journ.*, Oct. 20, 1906).—The operation applies to those cases in which the hearing was good up to a short time before operating. These are usually cases of

acute extensive involvement of the temporal bone, more rarely cases of otitis media purulenta chronica in which the sound-conducting mechanism has been retained more or less intact. The object in these cases is to remove all the diseased bone and to produce perfect drainage, at the same time preserving the auditory function of the middle ear.

To establish thorough drainage Bryant makes a U-shaped myringotomy to drain the antrum and opens the mastoid antrum to drain the epitympanum. All diseased bone is removed and all the cells of the middle ear system are opened to throw them into one cavity leading to the epitympanum. The outer anterior wall of the antrum is wholly taken away with the exception of enough to support the annulus and adjacent membrana tympani, at the same time protecting the suspensory ligament of the malleus, also the fan-shaped ligament of the incus from injury. By this procedure the upper and back part of the tympanum is drained through the mastoid wound, and the lower anterior part through the meatus without permanent injury to the sound-conducting mechanism.

THE MAXILLARY SINUS OPERATION THAT HAS YIELDED ME THE BEST RESULTS.—Jackson (*Laryngoscope*, Oct., 1906).—The author's method of procedure is as follows: The anterior two-thirds, or all of the middle turbinal, is removed; then the entire inferior turbinal is removed, except a long ridge-like stump. He next enlarges the antral opening all the way down to the floor of the nose, making it of ample size so that it will remain open a long time, if not permanently, affording proper drainage of the antrum. This he considers the most important step in the operation. The naso-antral wall is removed backward to the posterior limit of the antral cavity so as to afford perfect drainage without a "pocket" in dorsal decubitus. With this opening a backward inclination of the head permits complete emptying of the antrum. He next removes sufficient of the anterior wall of the antrum by the buccal route to enable the exploration of the cavity with the finger and the thorough removal of diseased tissue, sparing normal ciliated epithelium, if present. The cavity is irrigated with boric acid every alternate day and repacked through the buccal wound. The cavity is packed with iodoform gauze rinsed in a weak bichloride solution and having plain gauze knotted to the end so that what lies in the mouth will contain no iodoform. When the cavity is seen to be lined with healthy granulations the buccal wound is closed after packing the antrum with iodoform gauze, omitting the plain gauze and plug. This last packing is removed through the nose on the third day. In some cases irrigation through the nose may be necessary for a short time.

BOOK REVIEWS.

PREVALENT DISEASES OF THE EYE. By Samuel Theobald, M. D., Clinical Professor of Ophthalmology and Otology, Johns Hopkins University. Octavo of 551 pages, with 219 text-illustrations and 10 colored plates. Philadelphia and London: W. B. Saunders Company. 1906. Cloth, \$4.50 net; half morocco, \$5.50 net.

It has become the habit of every writer of an ophthalmic text book to adopt as an explanatory subtitle, "Primarily intended for the general practitioner and medical student." How infrequently do text books really subserve the purposes of these two classes of readers is a matter of general knowledge. Whatever may have been the original intention of the author, the end result of his labors is invariably a work for the perusal of his fellow specialists. In such a book the deluded general practitioner will flounder beyond his depth, and, instead of being filled with gratitude to the author who has failed to give him real help in his ophthalmic problems, he is far more likely to regret an ill-spent five-dollar bill and to relegate the book to his highest shelf.

Such being only too sadly the case, it is extremely gratifying to encounter a text book in which the needs of the practitioner and student have been constantly kept in view. Dr. Theobald's subtitle, "A reference handbook especially adapted to the needs of the general practitioner and medical student," is amply justified by the judicious selection and suitable arrangement of material. Bearing in mind the unfamiliarity of these two classes of readers with ophthalmoscopy, the methods of determining errors of refraction, muscular anomalies, etc., little or no stress is laid upon this aspect of the subject, but, on the other hand, ample instruction is given to enable the reader to make distinctions between trivial diseases which may properly be handled by him and the more serious affections urgently calling for the help of a specialist. Dr. Theobald has wisely refrained from describing a multitude of remedies, local and general, but has noted only those which in his experience are most generally applicable to the different conditions described.

The book is written in beautiful English, so that it may be commended from the literary point of view. The illustrations, many of which are in color, are extremely good and serve uncommonly well to elucidate the text.

This book occupies a field of its own, and can be unreservedly commended to students and practitioners.

BEITRAGE ZUR KLINIK DER TUBERCULOSE. Herausgegeben von Dr. Ludolph Brauer. Wuerzburg: A. Stuber's Verlag. 1906.

The first number of Volume VI of this publication has just appeared, and it is devoted to a series of articles by Bandelier, Director of the Pulmonary Sanitarium, Cottbus. They are chiefly devoted to a discussion of the diagnostic and therapeutic value of tuberculin. An abstract of the two articles devoted to the former will be found in our abstract columns under Diagnosis.

A TEXT BOOK OF HUMAN PHYSIOLOGY. By Dr. Robert Tigerstedt. Translated from the Third German Edition and Edited by John R. Murlin, A. M., Ph. D. New York and London: D. Appleton & Co. 1906.

This translation of Prof. Tigerstedt's wonderful text book of physiology will doubtless meet with a warm welcome. Of the many text books written on this subject, none will for a moment compare in charm and interest with the delightful original. It is, however, with some dismay that we find that the translator has cut down the original to the capacity of our American second-year medical students. To this end he has found it necessary to cut

out much of the discussion of the physics of the circulation, of optics and the like. A number of new illustrations of American apparatus are introduced. While not the equal of the original for purposes of reference, the translation will doubtless be useful as a text book in medical schools.

MODERN CLINICAL MEDICINE: Diseases of the Digestive System. Edited by Frank Billings, M. D. Translated under the supervision of Julius L. Salinger, M. D. D. Appleton & Co., New York and London. 1906.

This volume includes articles from many of the most eminent of German clinicians, men such as Rosenheim, Riegel, Ewald, Boas, Oser and the like. It is a translation of the second part of "Die Deutsche Klinik," which, with Nothnagel's series, stands at the head of German clinical publications. The bulk of the volume is naturally devoted to diseases of the stomach and intestine, and most of the remainder to hepatic disorders. A chapter on "Symptomatology of Diseases of the Pancreas," by L. Oser, of Vienna, covers this subject adequately, and two chapters on perityphlitis set forth the German views on this subject. The translation is well done, and the series can be unreservedly commended to our readers.

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